LESSON 1.1

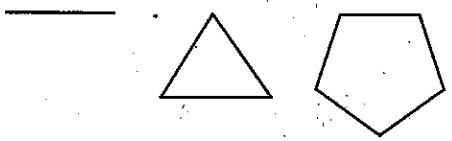
NAME _____ DATE _____

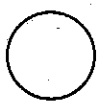
Standardized Test Practice

For use with pages 3–9

TEST TAKING STRATEGY **Read each test question carefully. Always look for shortcuts that will allow you to work through a problem more quickly.**

1. ***Multiple Choice*** Choose the next figure in the pattern.



Ⓐ 
Ⓑ 
Ⓒ 
Ⓓ 
Ⓔ 

2. ***Multiple Choice*** What is the next number in the sequence?

2, −1, −4, −7 . . .

Ⓐ −9 Ⓑ −10 Ⓒ 10
Ⓓ −11 Ⓔ −12

3. ***Multiple Choice*** What is the next number in the sequence?

0, 2, 6, 12 . . .

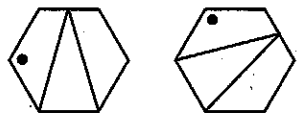
Ⓐ 18 Ⓑ 24 Ⓒ 20
Ⓓ 22 Ⓔ 26

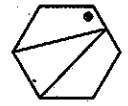
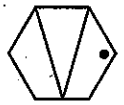
4. ***Multiple Choice*** What is the next number in the sequence?

−2, 4, 16 . . .

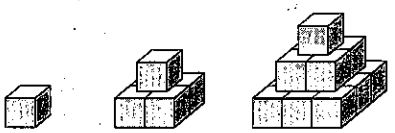
Ⓐ 28 Ⓑ 26 Ⓒ −12
Ⓓ 256 Ⓔ 192

5. ***Multiple Choice*** Choose the next figure in the pattern.



Ⓐ 
Ⓑ 
Ⓒ 
Ⓓ 
Ⓔ 

6. ***Multiple Choice*** The first three objects in a pattern are shown. How many blocks are in the next object?



Ⓐ 20 Ⓑ 25 Ⓒ 30
Ⓓ 36 Ⓔ 40

7. ***Multi-Step Problem*** Examine the triangular pattern.

1
1 1
1 2 1
1 3 3 1

a. Predict the next two rows of the triangle.

b. Describe a pattern for the value of a number in each row.

c. Describe a pattern for the number of entries in each row.

Chapter 1

LESSON 1.2

NAME _____ DATE _____

Standardized Test Practice

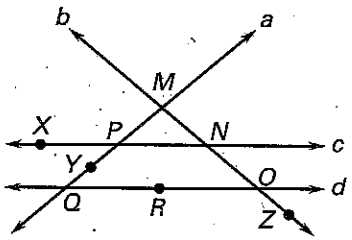
For use with pages 10–16

TEST TAKING STRATEGY **Work as quickly as you can through the easier sections but avoid making careless errors on easy questions.**

1. ***Multiple Choice*** What does the symbol $\overrightarrow{BC}$ represent?

   (A) segment BC (B) line BC
   (C) point B (D) ray BC
   (E) ray CB

Multiple Choice **In Exercises 2–6, refer to the diagram below.**



2. Name all points that are collinear to points N and Z.

   (A) P (B) O (C) M
   (D) P and X (E) O and M

3. Name a point that lies on line c.

   (A) M (B) P (C) Z
   (D) Q (E) O

4. Name all points that are collinear to points P and Q.

   (A) M (B) N (C) Y
   (D) X (E) M and Y

5. Name a point that is coplanar to line a.

   (A) N (B) O (C) R
   (D) Q (E) all of these

6. Name three noncollinear points.

   (A) P, Y, Q (B) M, N, P (C) M, N, Z
   (D) Q, R, O (E) X, N, P

7. ***Multiple Choice*** $\overleftrightarrow{AB}$ and $\overleftrightarrow{BD}$ intersect at ___?___.

   (A) A (B) B (C) C
   (D) D (E) none of these

8. ***Multiple Choice*** Points W, X, Y and Z are not coplanar. What is the intersection of plane WXY and WYZ?

   (A) $\overleftrightarrow{WX}$ (B) $\overleftrightarrow{WY}$ (C) W and Y
   (D) The planes do not intersect.
   (E) Cannot be determined.

9. ***Multi-Step Problem*** Follow the directions below to sketch the figure described.

   a. Draw a plane and three points that lie on the plane that are not collinear. Label the points A, B, and C.

   b. Sketch line segments $\overline{AB}$ and $\overline{BC}$.

   c. Draw a line that intersects plane ABC at point B. Label the line l.

   d. Draw points D and E on line l so that $\overrightarrow{BE}$ and $\overrightarrow{BD}$ are opposite rays.

LESSON 1.3

NAME _____ DATE _____

Standardized Test Practice

For use with pages 17–25

TEST TAKING STRATEGY **Sketch graphs or figures in your test booklet to help you solve the problems. Even though you must keep your answer sheet neat, you can make any kind of mark you want in your test booklet.**

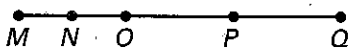
1. *Multiple Choice* A rule that is accepted without proof is called a ___?___.

   (A) theorem (B) postulate
   (C) axiom (D) A and B
   (E) B and C

2. *Multiple Choice* Find the length of $\overline{AC}$ if AB is 6, BC is 10, and B is between A and C.

   (A) 4 (B) 16 (C) -4
   (D) 60 (E) 6

Multiple Choice **In Exercises 3–7, use the diagram below where $MQ = 30$, $MN = 5$, $MN = NO$, and $OP = PQ$.**



3. Find the length of $\overline{OQ}$.

   (A) 5 (B) 10 (C) 15
   (D) 20 (E) 25

4. Find the length of $\overline{PQ}$.

   (A) 5 (B) 10 (C) 15
   (D) 20 (E) 25

5. Find the length of $\overline{NO}$.

   (A) 5 (B) 10 (C) 15
   (D) 20 (E) 25

6. Find the length of $\overline{NP}$.

   (A) 5 (B) 10 (C) 15
   (D) 20 (E) 25

7. Which of the statements below are not true?

   (A) $NP = MN + PQ$ (B) $MP = OQ$
   (C) $NQ = MP$ (D) $MO = PQ$
   (E) $MQ = PQ \cdot 3$

8. *Multiple Choice* Point H is between G and I. Use the segment addition postulate to solve for x when $GH = 8x + 7$, $HI = 3x - 2$, and $GI = 38$.

   (A) 3 (B) 5 (C) 7
   (D) 31 (E) 39

9. *Multiple Choice* In Exercise 8, the length of $\overline{HI}$ is ___?___.

   (A) 3 (B) 5 (C) 7
   (D) 31 (E) 39

10. *Multiple Choice* Use points $A(5, 1)$, $B(5, 6)$, $C(1, 4)$ and $D(4, -2)$ to determine which of the following is true.

    (A) $\overline{AB} \cong \overline{BC}$ (B) $\overline{AB} \cong \overline{CD}$
    (C) $\overline{AB} \cong \overline{BD}$ (D) $\overline{AC} \cong \overline{AB}$
    (E) $\overline{BC} \cong \overline{CD}$

Quantitative Comparison **In Exercises 11–13, choose the statement below that is true about the given values.**

(A) The value in column A is greater.
(B) The value in column B is greater.
(C) The two values are equal.
(D) The relationship cannot be determined from the information given.

	Column A	*Column B*
11.	AB when $A(1, 3)$ and $B(3, -6)$	XY when $X(5, 2)$ and $Y(-1, 4)$
12.	AB when $A(-2, -4)$ and $B(3, 2)$	XY when $X(-5, 3)$ and $Y(-8, -2)$
13.	XZ	$XY + YZ$

LESSON 1.4

NAME _____ DATE _____

Standardized Test Practice

For use with pages 26–32

TEST TAKING STRATEGY **Avoid spending too much time on one question. Skip questions that are too difficult for you, and spend no more than a few minutes on each question.**

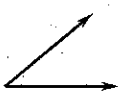
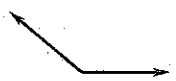
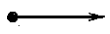
1. ***Multiple Choice*** Angle A is an obtuse angle for which measure(s)?

   (A) $0° < m\angle A < 90°$
   (B) $0° < m\angle A < 180°$
   (C) $90° < m\angle A < 180°$
   (D) $m\angle A = 90°$
   (E) $m\angle A = 180°$

2. ***Multiple Choice*** An angle measuring 35° would be a(n) ___?___.

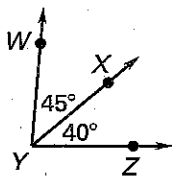
   (A) acute angle (B) obtuse angle
   (C) right angle (D) straight angle
   (E) adjacent angle

3. ***Multiple Choice*** Which angle appears to be a right angle?

   (A)
   (B) 
   (C) 
   (D) 
   (E) 

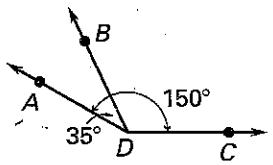
4. ***Multiple Choice*** Find $m\angle WYZ$.

   (A) 5° (B) 90°
   (C) 85° (D) 105°
   (E) 175°

5. ***Multiple Choice*** Find $m\angle BDC$.

   (A) 185°
   (B) 115°
   (C) 25°
   (D) 175°
   (E) 100°

6. ***Multiple Choice*** Plot the points $A(-6, 4)$, $B(-1, 1)$ and $C(3, 1)$ in a coordinate plane. Sketch $\angle ABC$. The angle is a(n) ___?___.

   (A) acute angle (B) obtuse angle
   (C) right angle (D) straight angle
   (E) adjacent angle

7. ***Multiple Choice*** Using the same three points in Exercise 6, sketch $\angle ACB$. The angle is a(n) ___?___.

   (A) acute angle (B) obtuse angle
   (C) right angle (D) straight angle
   (E) adjacent angle

8. ***Quantitative Comparison*** **Use the following information.**

   - D is interior to $\angle ABE$ • $m\angle ABD = 50°$
   - E is interior to $\angle DBF$ • $m\angle EBC = 90°$
   - F is interior to $\angle EBC$ • $m\angle ABD = m\angle EBF$

   Choose the statement below that is true about the given values.

   (A) The value in column A is greater.
   (B) The value in column B is greater.
   (C) The two values are equal.
   (D) The relationship cannot be determined from the information given.

Column A	*Column B*
$m\angle ABC$	$m\angle ABE + m\angle EBC$

LESSON **1.5**

NAME _____ DATE _____

Standardized Test Practice

For use with pages 34–42

TEST TAKING STRATEGY **Staying physically relaxed during the SAT is very important. If you find yourself tensing up, put your pencil down and take a couple of deep breaths. This will help you stay calm.**

1. ***Multiple Choice*** Find the midpoint of a segment with endpoints $A(3, -2)$ and $B(8, 1)$.

   (A) $\left(\frac{5}{2}, -\frac{3}{2}\right)$ (B) $\left(\frac{11}{2}, \frac{1}{2}\right)$ (C) $\left(\frac{11}{2}, -\frac{1}{2}\right)$
   (D) $\left(\frac{5}{2}, -\frac{1}{2}\right)$ (E) $\left(\frac{11}{2}, -\frac{3}{2}\right)$

2. ***Multiple Choice*** Find the midpoint of a segment with endpoints $A(-7, 3)$ and $B(3, -3)$.

   (A) $(-2, -3)$ (B) $(-2, 0)$
   (C) $(-5, 0)$ (D) $(2, 0)$
   (E) $(-5, -3)$

3. ***Multiple Choice*** Find the coordinates of the other endpoint of a segment with an endpoint of $X(13, 5)$ and midpoint $M(8, 3)$.

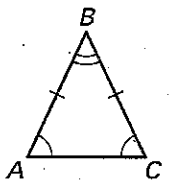
   (A) $(18, 7)$ (B) $(18, 1)$
   (C) $(3, 7)$ (D) $(3, 1)$
   (E) $(-29, -11)$

4. ***Multiple Choice*** Find the coordinates of the other endpoint of a segment with an endpoint of $X(-2, 3)$ and midpoint $M(1, -2)$.

   (A) $(4, -7)$ (B) $(-4, 7)$
   (C) $(0, -1)$ (D) $(-5, 8)$
   (E) $(4, 8)$

5. ***Multiple Choice*** Choose the congruent angles on the triangle shown.

   (A) $\angle A$ and $\angle B$
   (B) $\angle A$ and $\angle C$
   (C) $\angle B$ and $\angle C$
   (D) $\overline{AB}$ and $\overline{AC}$
   (E) $\overline{AB}$ and $\overline{BC}$

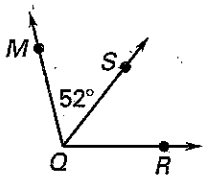


6. ***Multiple Choice*** $\overrightarrow{BD}$ bisects $\angle ABC$. If the $m\angle DBC = 28°$, what is the $m\angle ABD$?

   (A) 14° (B) 28° (C) 56°
   (D) 62° (E) 152°

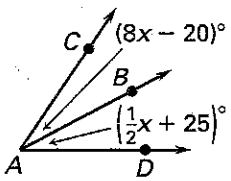
7. ***Multiple Choice*** $\overrightarrow{QS}$ bisects $\angle MQR$. What is the $m\angle MQR$?

   (A) 26° (B) 52°
   (C) 104° (D) 13°
   (E) 38°



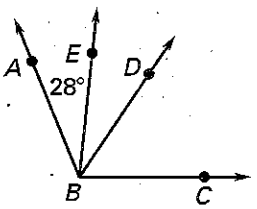
8. ***Multiple Choice*** $\overrightarrow{AB}$ bisects $\angle CAD$. Find the value of x.

   (A) 2 (B) 56
   (C) 5 (D) 28
   (E) 6



Quantitative Comparison **In Exercises 9 and 10, use the diagram below where $\overrightarrow{BD}$ bisects $\angle ABC$ and $\overrightarrow{BE}$ bisects $\angle ABD$.**

Choose the statement below that is true about the given values.



   (A) The value in column A is greater.
   (B) The value in column B is greater.
   (C) The two values are equal.
   (D) The relationship cannot be determined.

	Column A	Column B
9.	$m\angle ABE + m\angle EBD$	$m\angle DBC$
10.	$m\angle ABD$	180°

LESSON 1.6

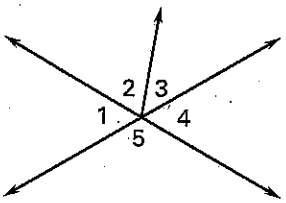
NAME _____ DATE _____

Standardized Test Practice

For use with pages 44–50

TEST TAKING STRATEGY **The mathematical portion of the SAT is based on material taught in your high school mathematics courses. One of the best ways to prepare for the SAT is to keep up with your regular studies and do your homework assignments.**

Multiple Choice **Refer to the diagram below for Exercises 1–3.**



1. Which angles are a linear pair?

   (A) $\angle 1$ and $\angle 2$ (B) $\angle 2$ and $\angle 3$
   (C) $\angle 1$ and $\angle 4$ (D) $\angle 4$ and $\angle 5$
   (E) $\angle 3$ and $\angle 5$

2. Which angles are vertical angles?

   (A) $\angle 1$ and $\angle 2$ (B) $\angle 1$ and $\angle 5$
   (C) $\angle 3$ and $\angle 5$ (D) $\angle 1$ and $\angle 4$
   (E) $\angle 4$ and $\angle 5$

3. Which angles are supplementary?

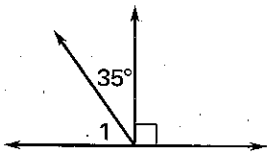
   (A) $\angle 1$ and $\angle 4$ (B) $\angle 4$ and $\angle 5$
   (C) $\angle 1$ and $\angle 5$ (D) B and C
   (E) all of these

4. ***Multiple Choice*** Two angles are supplementary. One angle has a measure that is five less than four times the other. What is the measure of the larger angle?

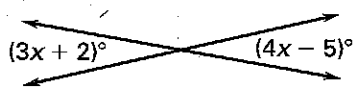
   (A) 19 (B) 71 (C) 143
   (D) 148 (E) 153

5. ***Multiple Choice*** What is the $m\angle 1$?

   (A) 45° (B) 90°
   (C) 55° (D) 145°
   (E) 155°



6. ***Multiple Choice*** Find the value of x.

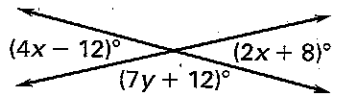


   (A) 13.3 (B) 7 (C) 14
   (D) 26 (E) 25

7. ***Multiple Choice*** Two angles are complementary. One angle has a measure that is twice the other angle. What is the measure of the smaller angle?

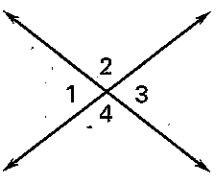
   (A) 15 (B) 30 (C) 45
   (D) 60 (E) 75

8. ***Multiple Choice*** Find the value of y.



   (A) 10 (B) 28 (C) 20
   (D) 152 (E) 128

Quantitative Comparison **In Exercises 9 and 10, use the diagram below and choose the statement below that is true about the given value. The $m\angle 3 = 76°$.**



   (A) The value in column A is greater.
   (B) The value in column B is greater.
   (C) The two values are equal.
   (D) The relationship cannot be determined from the given information.

	Column A	Column B
9.	$m\angle 3$	$m\angle 1$
10.	$m\angle 4$	The supplement of $\angle 1$

LESSON 1.7

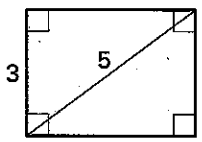
NAME _____ DATE _____

Standardized Test Practice

For use with pages 51–58

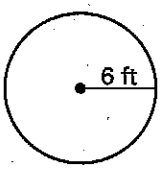
TEST TAKING STRATEGY **Make sure you are familiar with the directions before taking a standardized test. This way, you do not need to worry about the directions during the test.**

1. ***Multiple Choice*** Find the perimeter of the figure.



Ⓐ 7 Ⓑ 8
Ⓒ 14 Ⓓ 16
Ⓔ 30

2. ***Multiple Choice*** Find the circumference of the circle. (Use $\pi \approx 3.14$.)



Ⓐ 18.84 ft
Ⓑ 37.68 ft
Ⓒ 113.04 ft
Ⓓ 37.68 ft^2
Ⓔ 113.04 ft^2

3. ***Multiple Choice*** Find the area of a square with a side of 7 inches.

Ⓐ 14 in. Ⓑ 28 in.^{2} Ⓒ 49 in.
Ⓓ 49 in.^{2} Ⓔ 28 in.

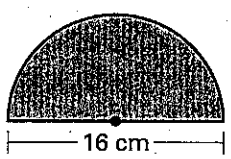
4. ***Multiple Choice*** Find the area of a triangle with a base of 8 m and a height of 4 m.

Ⓐ 19 m Ⓑ 32 m^2 Ⓒ 16 m^2
Ⓓ 16 m Ⓔ 12 m^2

5. ***Multiple Choice*** Find the area of a circle with a radius of 9 meters. (Use $\pi \approx 3.14$.)

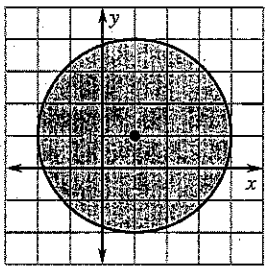
Ⓐ 28.26 m^2 Ⓑ 28.26 m
Ⓒ 56.52 m^2 Ⓓ 56.52 m
Ⓔ 254.34 m^2

6. ***Multiple Choice*** Find the area of the figure.



Ⓐ 50.24 cm^2
Ⓑ 25.12 cm^2
Ⓒ 401.92 cm^2
Ⓓ 200.96 cm^2
Ⓔ 100.48 cm^2

7. ***Multiple Choice*** Find the area of the figure.



Ⓐ 18.84 square units
Ⓑ 9.42 square units
Ⓒ 28.26 square units
Ⓓ 56.52 square units
Ⓔ 88.74 square units

8. ***Multiple Choice*** Find the area of the rectangle defined by $A(2, 1)$, $B(2, 4)$, $C(6, 4)$ and $D(6, 1)$.

Ⓐ 7 square units Ⓑ 14 square units
Ⓒ 24 square units Ⓓ 12 square units
Ⓔ 9 square units

9. ***Multiple Choice*** A square with an area of 64 square inches has a perimeter of ___?___.

Ⓐ 64 in. Ⓑ 16 in. Ⓒ 32 in.
Ⓓ 128 in. Ⓔ cannot be determined

10. ***Multiple Choice*** A triangle has an area of 72 square feet and a height of 9 feet. Find its base.

Ⓐ 16 ft Ⓑ 8 ft Ⓒ 32 ft
Ⓓ 9 ft Ⓔ 34 ft

11. ***Multi-Step Problem*** A rectangular window pane is 40 inches by 50 inches.

a. Find the area of the window pane.

b. Find the perimeter of the window pane.

c. A frame around the window pane is 1.5 inches wide. Find the area and perimeter of the window pane, including the frame. With the frame, by what percent did the area increase?

LESSON 2.1

NAME _____ DATE _____

Standardized Test Practice

For use with pages 71–78

TEST TAKING STRATEGY **When checking your work, try to use a method other than the one you originally used to get your answer. If you use the same method, you may make the same mistake twice.**

1. ***Multiple Choice*** What is the if-then form of "A group is a dozen if it has 12 objects?"

   (A) If a group does not have 12 objects, then it is not a dozen.

   (B) If a group is not a dozen, then it does not have 12 objects.

   (C) If a group has 12 objects, then it is a dozen.

   (D) A group is a dozen if and only if it has 12 objects.

   (E) None of the above

2. ***Multiple Choice*** What is the inverse of "If water is ice, then the water's temperature is 32°F?"

   (A) If water's temperature is 32°F, then it is ice.

   (B) If water is not ice, then its temperature is not 32°F.

   (C) If water's temperature is not 32°F, then water is not ice.

   (D) Water is ice if and only if its temperature is 32°F.

   (E) None of the above

3. ***Multiple Choice*** What is the converse of "If you are hungry, then you did not eat lunch?"

   (A) If you did not eat lunch, then you are hungry.

   (B) If you ate lunch, then you are not hungry.

   (C) If you are not hungry, then you ate lunch.

   (D) You are hungry if and only if you did not eat lunch.

   (E) None of the above

4. ***Multiple Choice*** What is the contrapositive of "If $x = 3$, then $5x - 2 = 13$?"

   (A) $5x - 2 = 13$ if and only if $x = 3$.

   (B) If $x \neq 3$, then $5x - 2 \neq 13$.

   (C) If $5x - 2 = 13$, then $x = 3$.

   (D) If $5x - 2 \neq 13$, then $x \neq 3$.

   (E) None of the above

5. ***Multiple Choice*** Which of the following statements is not true?

   (A) If $x = 4$, then $x^2 = 16$.

   (B) If $x^3 = -27$, then $x = -3$.

   (C) If $x \neq -3$, then $x^3 \neq -27$.

   (D) If $x = 2$, then $x^2 = 4$.

   (E) If $x^2 = 4$, then $x = 2$.

6. ***Multiple Choice*** Use the conditional statement "If an angle is obtuse, then the angle measures 98°" to decide which of the following are true.

   I. The statement is true.

   II. The converse of the statement is true.

   III. The contrapositive of the statement is true.

   (A) I only (B) II only

   (C) III only (D) I and II

   (E) I and III

7. ***Multi-Step Problem*** Use Postulate 8 to answer parts (a)–(e).

   Postulate 8: Through any three non-collinear points there exists exactly one plane.

   a. Rewrite Postulate 8 in if-then form.

   b. Write the converse of Postulate 8.

   c. Write the inverse of Postulate 8.

   d. Write the contrapositive of Postulate 8.

   e. ***Critical Thinking*** Are the statements you wrote in parts (a)–(d) true?

Chapter 2

LESSON 2.2

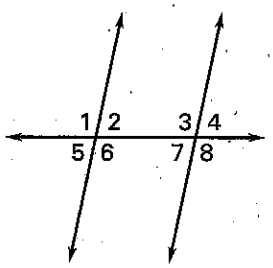
NAME _____ DATE _____

Standardized Test Practice

For use with pages 79–85

TEST TAKING STRATEGY **If you find yourself spending too much time on one test question and getting frustrated, move to the next question. You can revisit a difficult problem later with a fresh perspective.**

1. ***Multiple Choice*** Given that $\angle 2 \cong \angle 4$ and $\angle 2 \cong \angle 5$, which statement about the diagram is *not* true?



(A) $\angle 5 \cong \angle 4$

(B) $\angle 6$ and $\angle 2$ are supplementary.

(C) $\angle 8$ and $\angle 5$ are supplementary.

(D) $\angle 1 \cong \angle 8$

(E) $\angle 1$ and $\angle 3$ are supplementary.

2. ***Multiple Choice*** What is the biconditional form of the statement "If a whitetail deer has antlers, then it is a male deer?"

(A) A whitetail deer has no antlers if and only if it is not a male deer.

(B) A whitetail deer has antlers if and only if it is a male deer.

(C) If a whitetail deer has no antlers, then it is not a male deer.

(D) If a whitetail deer is male, then it has antlers.

(E) None of the above

3. ***Multiple Choice*** Which one of the following statements cannot be written as a true biconditional statement?

(A) If the sum of two angles is 90°, then they are complementary.

(B) If two angles have the same measurement, then they are congruent.

(C) If $5x + 7 = 22$, then $x = 3$.

(D) If two angles are a linear pair, then they are supplementary.

(E) If Y lies between X and Z, then $XY + YZ = XZ$.

4. ***Multiple Choice*** Which of the following is true about the conditional statement "If $m\angle 1 = 30°$ and the $m\angle 2 = 150°$, then the angles are supplementary?"

I. The statement is true.

II. The converse is true.

III. The statement can be written as a true biconditional.

(A) I (B) II (C) III

(D) I and II (E) I, II, and III

5. ***Multiple Choice*** Which statement below would be a true biconditional statement?

(A) If $\angle ABC$ measures 90°, then it is a right angle.

(B) If two angles are adjacent, then they share a common side.

(C) If two squares have the same diagonal length, then they have equal sides.

(D) A and C

(E) All of the above

Quantitative Comparison **In Exercises 6 and 7, choose the statement below that is true about the given quantities.**

(A) The quantity in column A is greater.

(B) The quantity in column B is greater.

(C) The two quantities are equal.

(D) The relationship cannot be determined from the given information.

	Column A	*Column B*
6.	The number of lines created by the intersection of two planes	The number of lines that can be drawn through any one point
7.	The sum of two supplementary angles	The sum of two adjacent angles

Chapter 2

LESSON 2.3

NAME _____ DATE _____

Standardized Test Practice

For use with pages 87–95

TEST TAKING STRATEGY **It is important to remember that your SAT score will not solely determine your acceptance into a college or university. Do not put added pressure on yourself to do well. If you are not satisfied with your SAT score, remember you can take it again.**

Multiple Choice **For Exercises 1–3, let p be "it is raining," let q be "it is thundering," and let r be "we cannot swim."**

1. What is $q \rightarrow p$?
   - (A) If it is raining, then it is thundering.
   - (B) If it is raining, then we cannot swim.
   - (C) If it is thundering, then it is raining.
   - (D) If it is thundering, then we cannot swim.
   - (E) If it is not raining, then it is not thundering.

2. What is the converse of $p \rightarrow q$?
   - (A) If it is thundering, then it is raining.
   - (B) If it is not raining, then it is not thundering.
   - (C) If it is not thundering, then it is not raining.
   - (D) If it is not thundering, then it is raining.
   - (E) If it is thundering, then it is not raining.

3. What is the contrapositive of $r \rightarrow q$?
   - (A) If it is thundering, then we cannot swim.
   - (B) If we can swim, then it is not thundering.
   - (C) If we cannot swim, then it is not thundering.
   - (D) If we can swim, then it is thundering.
   - (E) If it is not thundering, then we can swim.

4. ***Multiple Choice*** The statement $\sim p \rightarrow \sim r$ could be ___?___.
   - (A) the inverse of $r \rightarrow p$
   - (B) the inverse of $\sim r \rightarrow \sim p$
   - (C) the contrapositive of $r \rightarrow p$
   - (D) the converse of $r \rightarrow p$
   - (E) the contrapositive of $\sim r \rightarrow \sim p$

5. ***Multiple Choice*** Which type of reasoning allows the conclusion given the true statement? "If it is Saturday, then Nina's family rents movies. Today is Saturday, therefore Nina concludes her family will rent movies."
   - (A) Law of Detachment
   - (B) Law of Syllogism
   - (C) Inductive reasoning
   - (D) Deductive reasoning
   - (E) None of the above

6. ***Multiple Choice*** Which type of reasoning allows the conclusion given the true statement? "For the past 4 weeks the ski club has gone skiing on Friday nights. Wendy concludes that the ski club will go skiing this Friday."
   - (A) Law of Detachment
   - (B) Law of Syllogism
   - (C) Inductive reasoning
   - (D) Deductive reasoning
   - (E) None of the above

7. ***Multi-Step Problem*** Let p be "you get caught exceeding the speed limit," let q be "you will get a speeding ticket," and let r be "you will pay higher insurance rates."
   - **a.** Write $p \rightarrow q$ in words.
   - **b.** Write $q \rightarrow r$ in words.
   - **c.** Write the contrapositive of $p \rightarrow q$ in words and symbols.
   - **d.** ***Writing*** Use the Law of Syllogism and the statements from parts (a) and (b) to write a new conditional statement. How does the Law of Detachment apply?

Chapter 2

LESSON 2.4

NAME _____ DATE _____

Standardized Test Practice

For use with pages 96–101

TEST TAKING STRATEGY **Do not panic if you run out of time before answering all of the questions. You can still receive a high test score without answering every question.**

1. ***Multiple Choice*** Which property of equality matches the conditional statement "If $AB = BC$ and $BC = CD$, then $AB = CD$?"

   (A) Addition property
   (B) Symmetric property
   (C) Reflexive property
   (D) Substitution property
   (E) Transitive property

2. ***Multiple Choice*** Which property of equality matches the conditional statement "If $m\angle X = m\angle Z$, then $m\angle Z = m\angle X$?"

   (A) Addition property
   (B) Symmetric property
   (C) Reflexive property
   (D) Substitution property
   (E) Transitive property

3. ***Multiple Choice*** Solve $5x = -10$, then choose the property that applies to the required step.

   (A) Substitution property
   (B) Addition property
   (C) Division property
   (D) Distributive property
   (E) Reflexive property

4. ***Multiple Choice*** Solve $x - 7 = 10$, then choose the property that applies to the required step.

   (A) Substitution property
   (B) Addition property
   (C) Division property
   (D) Distributive property
   (E) Reflexive property

5. ***Multiple Choice*** Which property of equality matches the conditional statement "If $XY + AB = 15$ and $XY = 5$, then $AB = 10$?"

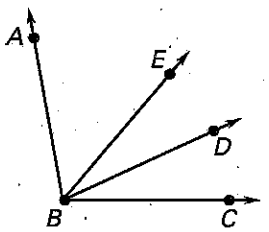
   (A) Substitution property
   (B) Addition property
   (C) Division property
   (D) Distributive property
   (E) Reflexive property

6. ***Multiple Choice*** Use the Multiplication property of equality to complete "If $m\angle A = 15°$, then $4(m\angle A) =$ ___?___."

   (A) 15° (B) 30° (C) 45°
   (D) 60° (E) 75°

7. ***Multi-Step Problem*** In the diagram, $m\angle ABE = m\angle EBC$ and $m\angle EBD = m\angle DBC$.

   State a reason that makes each statement true.



   a. $m\angle EBC = m\angle EBD + m\angle DBC$
   b. $m\angle ABE = m\angle EBC$
   c. $m\angle ABE = m\angle EBD + m\angle DBC$
   d. $m\angle EBD = m\angle DBC$
   e. $m\angle ABE = m\angle EBD + m\angle EBD$
   f. $m\angle ABE = 2(m\angle EBD)$
   g. ***Writing*** Use parts (a)–(f) to write an argument for "If $m\angle ABE = m\angle EBC$ and $m\angle EBD = m\angle DBC$, then $m\angle ABE = 2(m\angle EBD)$."

LESSON 2.5

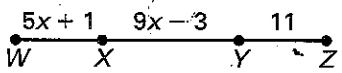
NAME _____ DATE _____

Standardized Test Practice

For use with pages 102-107

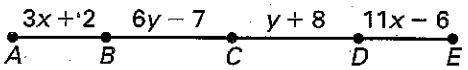
TEST TAKING STRATEGY **Make sure that you are familiar with the directions before taking a standardized test. This way, you do not need to worry about the directions during the test.**

1. ***Multiple Choice*** In the diagram, $\overline{WX} \cong \overline{YZ}$. Find the length of $\overline{XZ}$.



Ⓐ 11 Ⓑ 2 Ⓒ 15
Ⓓ 4 Ⓔ 26

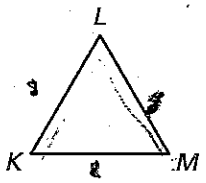
2. ***Multiple Choice*** In the diagram, $\overline{AB} \cong \overline{DE}$ and $\overline{BC} \cong \overline{CD}$. Find the length of $\overline{CE}$.



Ⓐ 11 Ⓑ 22 Ⓒ 10
Ⓓ 16 Ⓔ 5

3. ***Multiple Choice*** In $\triangle KLM$, $\overline{KL} \cong \overline{LM}$, and $KL = 8$, and $KM = 8$. Give a reason why $\overline{KL}$ and $\overline{KM}$ are congruent.

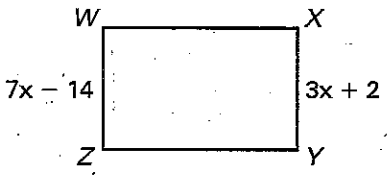
Ⓐ Reflexive property
Ⓑ Symmetric property
Ⓒ Definition of congruent segments
Ⓓ Transitive property
Ⓔ Addition property



4. ***Multiple Choice*** In the figure from Exercise 3, $\overline{KL} \cong \overline{LM}$ and $\overline{LM} \cong \overline{KM}$. Give a reason that $\overline{KL} \cong \overline{KM}$.

Ⓐ Reflexive property
Ⓑ Transitive property
Ⓒ Symmetric property
Ⓓ Definition of congruent segments
Ⓔ Addition property

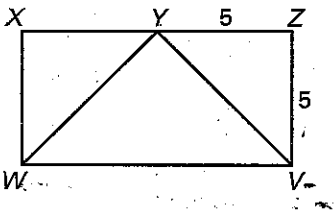
5. ***Multiple Choice*** In $WXYZ$, $\overline{WZ} \cong \overline{XY}$. What is the value of x?



Ⓐ 1.6 Ⓑ 3 Ⓒ 0.25
Ⓓ 12 Ⓔ 4

Quantitative Comparison **In Exercises 6–8, use the diagram below to choose the statement that is true about the given values.**

Ⓐ The value in column A is greater.
Ⓑ The value in column B is greater.
Ⓒ The two values are equal.
Ⓓ The relationship cannot be determined from the given information.



Given: Y is the midpoint of $\overline{XZ}$, $\overline{XW} \cong \overline{ZV}$, and $\overline{XZ} \cong \overline{WV}$.

	Column A	*Column B*
6.	XY	YZ
7.	WV	$3(ZV)$
8.	$WV + ZV$	$2(XY) + 2(YZ)$

Chapter 2

LESSON **2.6**

NAME _____ DATE _____

Standardized Test Practice

For use with pages 109–116

TEST TAKING STRATEGY **Staying physically relaxed during the SAT is very important. If you find yourself tensing up, put your pencil down and take a couple of deep breaths. This will help you stay calm.**

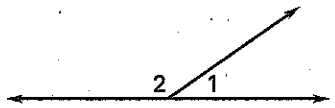
1. ***Multiple Choice*** Two angles $\angle 1$ and $\angle 2$ are complementary. If $m\angle 1$ is 27°, what is $m\angle 2$?

Ⓐ 27° Ⓑ 54° Ⓒ 90°
Ⓓ 63° Ⓔ 153°

2. ***Multiple Choice*** Two angles, $\angle 1$ and $\angle 2$, are supplementary to $\angle 3$. If $m\angle 1 = 85°$, then $m\angle 1 + m\angle 3 =$ ___?___.

Ⓐ 85° Ⓑ 170° Ⓒ 90°
Ⓓ 265° Ⓔ 180°

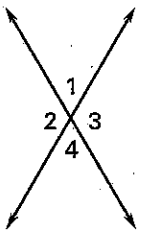
3. ***Multiple Choice*** What is $m\angle 2$ if $m\angle 1 = 35°$?



Ⓐ 35° Ⓑ 70° Ⓒ 90°
Ⓓ 145° Ⓔ 55°

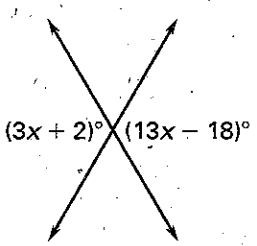
4. ***Multiple Choice*** If $m\angle 3 = 126°$, then $m\angle 2 =$ ___?___.

Ⓐ 63° Ⓑ 64°
Ⓒ 126° Ⓓ 128°
Ⓔ 36°



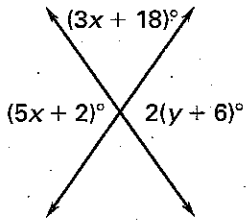
5. ***Multiple Choice*** Solve for x in the diagram.

Ⓐ 2 Ⓑ 4
Ⓒ 8 Ⓓ 16
Ⓔ 1



6. ***Multiple Choice*** Solve for y in the diagram.

Ⓐ 20
Ⓑ 45
Ⓒ 51
Ⓓ 78
Ⓔ 102

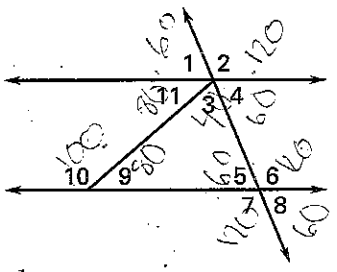


7. ***Multiple Choice*** Given that $\angle 1$ is not a right angle, $\angle 1$ and $\angle 2$ form a linear pair, $\angle 3$ and $\angle 4$ form a linear pair, and $\angle 1$ and $\angle 3$ are vertical angles. Which statement below is *not* true?

Ⓐ $m\angle 1 + m\angle 4 = 180°$
Ⓑ $m\angle 3 + m\angle 4 = 180°$
Ⓒ $\angle 2 \cong \angle 4$
Ⓓ $m\angle 2 + m\angle 4 = 180°$
Ⓔ $\angle 1 \cong \angle 3$

Quantitative Comparison **In Exercises 8–10, choose the statement that is true about the diagram. In the diagram, $\angle 4 \cong \angle 5$, $m\angle 3 = 40°$, $m\angle 6 = 120°$, and $m\angle 3 + m\angle 5 + m\angle 9 = 180°$.**

Ⓐ The value in column A is greater.
Ⓑ The value in column B is greater.
Ⓒ The two values are equal.
Ⓓ The relationship cannot be determined from the given information.



	Column A	Column B
8.	$m\angle 1$	$4(m\angle 7)$
9.	$m\angle 9$	$m\angle 11$
10.	$2(m\angle 4)$	$m\angle 10$

LESSON 3.1

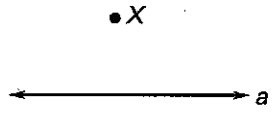
NAME _____ DATE _____

Standardized Test Practice

For use with pages 129–134

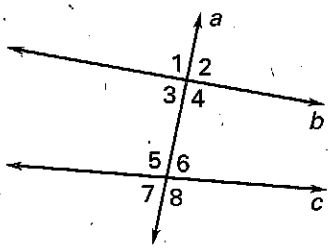
TEST TAKING STRATEGY **Work as quickly as you can through the easier sections, but avoid making careless errors on easy questions.**

1. *Multiple Choice* In the diagram, how many lines can be drawn through point X that are skew to line a?



Ⓐ 0 Ⓑ 1
Ⓒ 2 Ⓓ 3
Ⓔ More than 3

Multiple Choice **In Exercises 2–5, use the diagram below.**



2. Which angles are corresponding angles?

Ⓐ $\angle 1$ and $\angle 5$ Ⓑ $\angle 4$ and $\angle 6$
Ⓒ $\angle 2$ and $\angle 6$ Ⓓ A and B
Ⓔ A and C

3. Which angles are alternate exterior angles?

Ⓐ $\angle 2$ and $\angle 8$ Ⓑ $\angle 2$ and $\angle 7$
Ⓒ $\angle 3$ and $\angle 8$ Ⓓ A and B
Ⓔ A and C

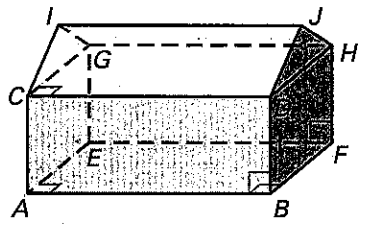
4. Which angles are consecutive interior angles?

Ⓐ $\angle 3$ and $\angle 5$ Ⓑ $\angle 4$ and $\angle 6$
Ⓒ $\angle 3$ and $\angle 7$ Ⓓ A and B
Ⓔ A and C

5. What type of angles are $\angle 4$ and $\angle 5$?

Ⓐ Corresponding angles
Ⓑ Alternate exterior angles
Ⓒ Alternate interior angles
Ⓓ Consecutive interior angles
Ⓔ Consecutive exterior angles

Multiple Choice **In Exercises 6–8, use the diagram below. Think of each segment as part of a line.**



6. $\overleftrightarrow{AC}$ and $\overleftrightarrow{HF}$ are ____?____.

Ⓐ perpendicular Ⓑ skew
Ⓒ parallel Ⓓ intersecting
Ⓔ None of these

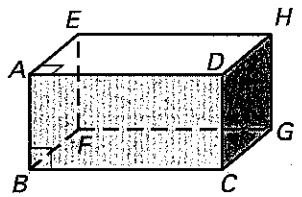
7. Which lines are skew to $\overleftrightarrow{BF}$?

Ⓐ $\overleftrightarrow{DH}$ and $\overleftrightarrow{JH}$ Ⓑ $\overleftrightarrow{CA}$ and $\overleftrightarrow{IG}$
Ⓒ $\overleftrightarrow{CD}$ and $\overleftrightarrow{GH}$ Ⓓ A and B
Ⓔ B and C

8. Which lines are perpendicular to $\overleftrightarrow{CG}$?

Ⓐ $\overleftrightarrow{CD}$ and $\overleftrightarrow{CA}$ Ⓑ $\overleftrightarrow{GH}$ and $\overleftrightarrow{EF}$
Ⓒ $\overleftrightarrow{HF}$ and $\overleftrightarrow{CA}$ Ⓓ A and B
Ⓔ B and C

9. ***Multi-Step Problem*** Use the diagram below to answer parts (a)–(d). Think of each segment as part of a line.



a. Name all lines parallel to $\overleftrightarrow{AD}$.

b. Name all lines skew to $\overleftrightarrow{FG}$.

c. Name all lines perpendicular to $\overleftrightarrow{BF}$.

d. ***Critical Thinking*** If you did not know $\angle ABC$ was a right angle, which answers above would be affected?

Chapter 3

LESSON 3.2

NAME _____ DATE _____

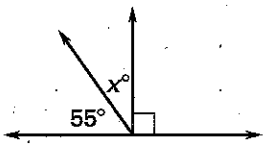
Standardized Test Practice

For use with pages 136–141

TEST TAKING STRATEGY **Avoid spending too much time on one question. Skip questions that are too difficult for you, and spend no more than a few minutes on each question.**

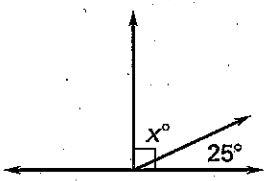
1. ***Multiple Choice*** Find the value of x.

Ⓐ 55 Ⓑ 35
Ⓒ 90 Ⓓ 145
Ⓔ 125

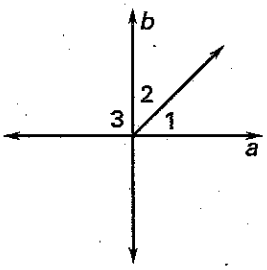


2. ***Multiple Choice*** Find the value of x.

Ⓐ 25 Ⓑ 50
Ⓒ 90 Ⓓ 65
Ⓔ 155



3. ***Multiple Choice*** Which of the following must be true if $a \perp b$?



I. $\angle 1$ and $\angle 2$ are complementary.

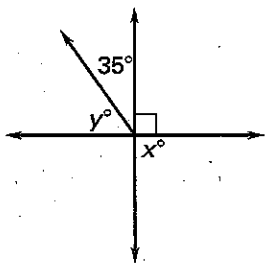
II. $m\angle 1 + m\angle 2 < 180°$

III. $m\angle 1 = m\angle 2$

Ⓐ I only Ⓑ II only
Ⓒ I and II Ⓓ I and III
Ⓔ I, II, and III

4. ***Multiple Choice*** Find the value of x.

Ⓐ 35
Ⓑ 70
Ⓒ 55
Ⓓ 110
Ⓔ 90



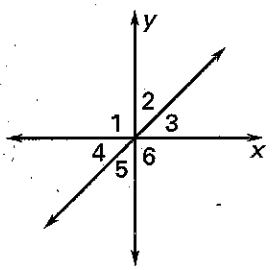
5. ***Multiple Choice*** Find the value of y from Exercise 4.

Ⓐ 35 Ⓑ 70 Ⓒ 55
Ⓓ 110 Ⓔ 90

Quantitative Comparison **For Exercises 6–8, use the diagram below. Choose the statement that is true about the given values.**

Given: $x \perp y$

$m\angle 5 = 35°$



Ⓐ The value in column A is greater.
Ⓑ The value in column B is greater.
Ⓒ The values are equal.
Ⓓ The relationship cannot be determined from the given information.

	Column A	*Column B*
6.	$m\angle 2 + m\angle 4$	$m\angle 6$
7.	$m\angle 1 + m\angle 2$	$m\angle 3 + m\angle 6$
8.	$m\angle 3$	$m\angle 5$

LESSON 3.3

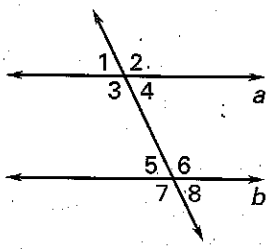
NAME _____ DATE _____

Standardized Test Practice

For use with pages 143–149

TEST TAKING STRATEGY **Sketch graphs or figures in your test booklet to help you solve the problem. Even though you must keep your answer sheet neat, you can make any kind of mark you want in your test booklet.**

Multiple Choice **For Exercises 1–4, use the diagram at the right, where $a \parallel b$.**



1. Choose the reason the statement "If the $m\angle 1 = 65°$, then $m\angle 5 = 65°$" is true.

   (A) Alternate Interior Angles Theorem
   (B) Alternate Exterior Angles Theorem
   (C) Consecutive Interior Angles Theorem
   (D) Vertical Angles Theorem
   (E) Corresponding Angles Postulate

2. Choose the reason the statement "If the $m\angle 3 = 115°$, then $m\angle 5 = 65°$" is true.

   (A) Alternate Interior Angles Theorem
   (B) Alternate Exterior Angles Theorem
   (C) Consecutive Interior Angles Theorem
   (D) Vertical Angles Theorem
   (E) Corresponding Angles Postulate

3. Choose the reason the statement "If the $m\angle 2 = 115°$, then $m\angle 7 = 115°$" is true.

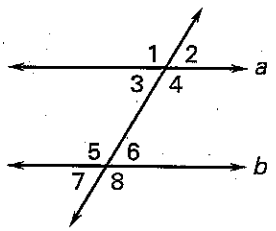
   (A) Alternate Interior Angles Theorem
   (B) Alternate Exterior Angles Theorem
   (C) Consecutive Interior Angles Theorem
   (D) Vertical Angles Theorem
   (E) Corresponding Angles Postulate

4. If the $m\angle 6 = 115°$, then the $m\angle 3 =$ ___?___.

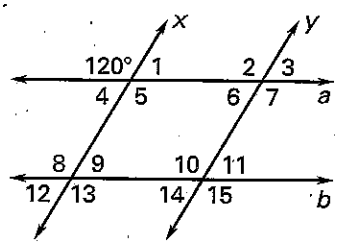
   (A) 65° (B) 115° (C) 180°
   (D) 90° (E) cannot be determined

5. ***Multiple Choice*** Which of the following is *not* true when $a \parallel b$?

   (A) $\angle 1 \cong \angle 5$ and $\angle 4 \cong \angle 8$
   (B) $m\angle 2 = m\angle 6$
   (C) $m\angle 1 + m\angle 5 = 180°$
   (D) $m\angle 4 + m\angle 6 = 180°$
   (E) $m\angle 4 = m\angle 8$



Quantitative Comparison **In Exercises 6–8, use the diagram below where $a \parallel b$ and $x \parallel y$. Choose the statement that is true about the given values.**



(A) The value in column A is greater.
(B) The value in column B is greater.
(C) The two values are equal.
(D) The relationship cannot be determined from the given information.

	Column A	*Column B*
6.	$m\angle 2$	$m\angle 8$
7.	$m\angle 10 + m\angle 6$	$m\angle 3 + m\angle 12$
8.	$m\angle 4$	$m\angle 14$

Chapter 3

LESSON 3.4

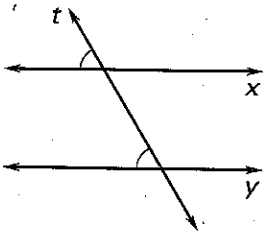
NAME _____ DATE _____

Standardized Test Practice

For use with pages 150–156

TEST TAKING STRATEGY **When checking your work, try to use a method other than the one you originally used to get your answer. If you use the same method, you may make the same mistake twice.**

1. ***Multiple Choice*** Which postulate or theorem would prove $x \parallel y$?



(A) Consecutive Interior Angles Converse

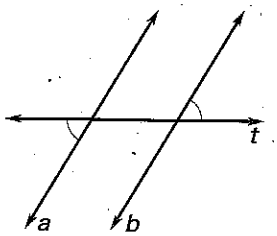
(B) Corresponding Angles Converse

(C) Alternate Interior Angles Converse

(D) Alternate Exterior Angles Converse

(E) Cannot prove $x \parallel y$ with given information

2. ***Multiple Choice*** Which postulate or theorem would prove $a \parallel b$?



(A) Consecutive Interior Angles Converse

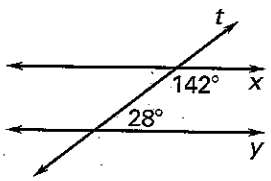
(B) Corresponding Angles Converse

(C) Alternate Interior Angles Converse

(D) Alternate Exterior Angles Converse

(E) Cannot prove $a \parallel b$ with given information

3. ***Multiple Choice*** Which postulate or theorem would prove $x \parallel y$?



(A) Consecutive Interior Angles Converse

(B) Corresponding Angles Converse

(C) Alternate Interior Angles Converse

(D) Alternate Exterior Angles Converse

(E) Cannot prove $x \parallel y$ with given information

4. ***Multiple Choice*** What value of x would make lines w and v parallel?

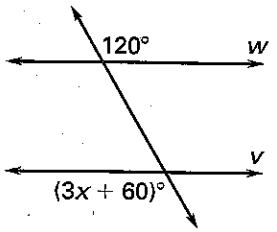
(A) 30

(B) 20

(C) 60

(D) 40

(E) 50



5. ***Multiple Choice*** Which lines are parallel?

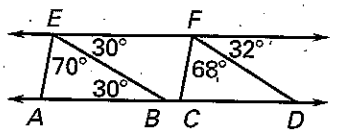
(A) $\overleftrightarrow{EB} \parallel \overleftrightarrow{FD}$

(B) $\overleftrightarrow{AE} \parallel \overleftrightarrow{CF}$

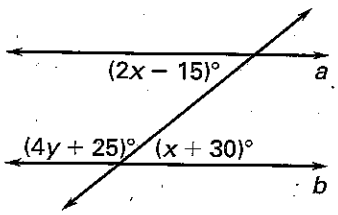
(C) $\overleftrightarrow{EF} \parallel \overleftrightarrow{BC}$

(D) B and C

(E) All of the above



6. ***Quantitative Comparison*** **Use the diagram below to find the values of x and y that would make $a \parallel b$.**



Choose the statement that is true about the given values.

(A) The value in column A is greater.

(B) The value in column B is greater.

(C) The two values are equal.

(D) The relationship cannot be determined from the given information.

Column A	*Column B*
x	y

LESSON 3.5

NAME _____ DATE _____

Standardized Test Practice

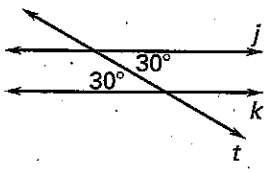
For use with pages 157–164

TEST TAKING STRATEGY **It is important to remember that your SAT score will not solely determine your acceptance into a college or university. Do not put added pressure on yourself to do well. If you are not satisfied with your SAT score, remember that you can take it again.**

1. ***Multiple Choice*** Complete the following to make a true statement. "In a plane, if two lines are ___?___ to the same line, then they are ___?___ to each other."

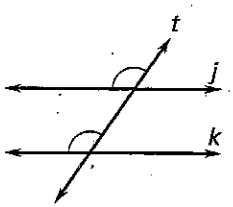
   (A) perpendicular, parallel
   (B) perpendicular, perpendicular
   (C) parallel, parallel
   (D) parallel, perpendicular
   (E) A and C

2. ***Multiple Choice*** Which theorem or postulate shows $j \parallel k$?



   (A) Alt. Int. ∠s Converse
   (B) Cons. Int. ∠s Converse
   (C) Alt. Ext. ∠s Converse
   (D) Corresp. ∠s Converse
   (E) None of these

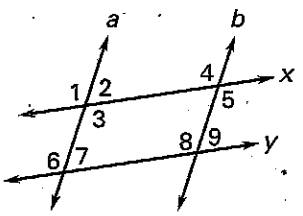
3. ***Multiple Choice*** Which theorem or postulate shows $j \parallel k$?



   (A) Alt. Int. ∠s Converse
   (B) Cons. Int. ∠s Converse
   (C) Alt. Ext. ∠s Converse
   (D) Corresp. ∠s Converse
   (E) None of these

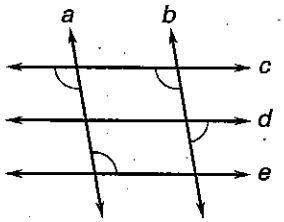
4. ***Multiple Choice*** Which of the statements must be true if $a \parallel b$ and $x \parallel y$?

   I. $m\angle 1 = m\angle 5$
   II. $m\angle 3 + m\angle 5 = 180°$
   III. $m\angle 7 + m\angle 8 = 180°$



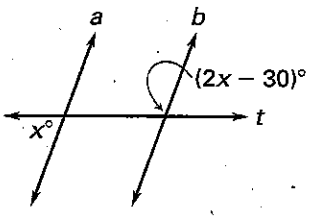
   (A) I only
   (B) II only
   (C) III only
   (D) I and III
   (E) All of the above

5. ***Multiple Choice*** Determine which lines must be parallel.



   (A) $a \parallel b$
   (B) $c \parallel d$
   (C) $c \parallel e$
   (D) A and B
   (E) A and C

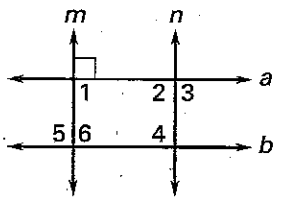
6. ***Multiple Choice*** What value of x makes $a \parallel b$?



   (A) 10
   (B) 30
   (C) 50
   (D) 70
   (E) 90

7. ***Multi-Step Problem*** Given $a \parallel b$, $m \parallel n$, and $a \perp m$.

   a. Prove $a \perp n$.
   b. Prove $b \perp n$.



Chapter 3

LESSON 3.6

NAME _____ DATE _____

Standardized Test Practice

For use with pages 165–171

TEST TAKING STRATEGY **Read each test question carefully. Always look for short-cuts that will allow you to work through a problem more quickly.**

1. ***Multiple Choice*** Find the slope of the line that passes through (5, 2) and (8, −1).

   (A) 1 (B) −1 (C) $-\frac{1}{3}$
   (D) $\frac{1}{3}$ (E) 2

2. ***Multiple Choice*** Which equation of the line has a slope of 5 and passes through point (−2, 1)?

   (A) $y = 5x - 11$ (B) $y = 5x - 2$
   (C) $y = 5x - 9$ (D) $y = 5x + 11$
   (E) $y = 11x + 5$

3. ***Multiple Choice*** Which equation of the line has a y-intercept of 6 and is parallel to $y = -\frac{1}{2}x + 2$?

   (A) $y = -\frac{1}{2}x - 6$ (B) $y = \frac{1}{2}x - 6$
   (C) $y = -\frac{1}{2}x + 6$ (D) $y = \frac{1}{2}x + 6$
   (E) $y = 2x + 6$

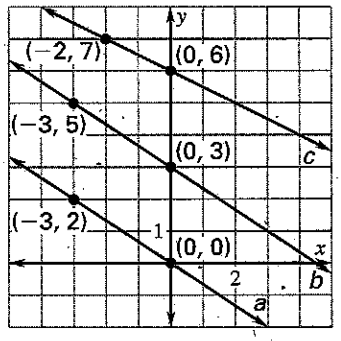
4. ***Multiple Choice*** Which equation of the line passes through (3, −2) and is parallel to $y = \frac{2}{3}x$?

   (A) $y = \frac{2}{3}x - 2$ (B) $y = \frac{2}{3}x + 3$
   (C) $y = \frac{2}{3}x - 4$ (D) $y = \frac{2}{3}x$
   (E) $y = \frac{2}{3}x + 4$

5. ***Multiple Choice*** Which of the following is an equation of a line parallel to $4y - 8 = 3x$?

   (A) $y = -\frac{3}{4}x + 6$ (B) $y = \frac{4}{3}x + 2$
   (C) $y = -\frac{4}{3}x - 1$ (D) $y = 3x - 4$
   (E) $y = \frac{3}{4}x$

6. ***Multiple Choice*** Which lines are parallel?



   (A) $a \parallel b$ (B) $b \parallel c$ (C) $a \parallel c$
   (D) None (E) All 3

7. ***Multiple Choice*** A line k has equation $y = -\frac{2}{3}x + 1$. If $k \parallel i$ and i passes through point (4, 1), what is the equation of i?

   (A) $y = -\frac{2}{3}x + \frac{11}{3}$ (B) $y = -\frac{3}{2}x + 4$
   (C) $y = -\frac{2}{3}x + 4$ (D) $y = \frac{2}{3}x + \frac{11}{3}$
   (E) $y = -\frac{2}{3}x + 1$

Quantitative Comparison **In Exercises 8 and 9, choose the statement below which is true about the given values.**

(A) The value in column A is greater.
(B) The value in column B is greater.
(C) The two values are equal.
(D) The relationship cannot be determined from the given information.

	Column A	*Column B*
8.	The slope of the line passing through (7, 5) and (4, 6)	The slope of the line passing through (7, 3) and (11, 2)
9.	The y-intercept of $y = \frac{3}{4}x$	The y-intercept of the line passing through (−1, 2) and (4, −1)

Chapter 3

LESSON 3.7

NAME _____ DATE _____

Standardized Test Practice

For use with pages 172–178

TEST TAKING STRATEGY **Do not panic if you run out of time before answering all of the questions. You can still receive a high test score without answering every question.**

1. ***Multiple Choice*** Which is the slope of a line perpendicular to the line $y = -2x + 6$?

   (A) 2 (B) $\frac{1}{2}$ (C) $-\frac{1}{2}$
   (D) -6 (E) $-\frac{1}{6}$

2. ***Multiple Choice*** Which equation of a line is perpendicular to $y = -\frac{2}{5}x - \frac{1}{3}$?

   (A) $y = -\frac{2}{5}x + 3$ (B) $y = -\frac{5}{2}x + 2$
   (C) $y = -\frac{5}{2}x + 3$ (D) $y = 3x + 3$
   (E) $y = \frac{5}{2}x + 6$

3. ***Multiple Choice*** The product of the slopes of two nonvertical perpendicular lines is ___?___.

   (A) 0 (B) 1 (C) -1
   (D) 2 (E) Cannot be determined with given information

4. ***Multiple Choice*** A line k has equation $y = -\frac{8}{11}x + 3$. If $k \perp l$ and l passes through point $(4, 3)$, what is the equation of line l?

   (A) $y = \frac{11}{8}x - \frac{5}{2}$ (B) $y = \frac{8}{11}x + \frac{1}{11}$
   (C) $y = \frac{8}{11}x + \frac{5}{2}$ (D) $y = -\frac{11}{8}x + \frac{17}{2}$
   (E) $y = \frac{11}{8}x + \frac{17}{2}$

5. ***Multiple Choice*** A line i has equation $y = \frac{1}{2}x$. If $i \perp j$ and j passes through point $(6, 2)$, what is the equation of j?

   (A) $y = -2x + 14$ (B) $y = -2x - 14$
   (C) $y = -2x - 10$ (D) $y = -2x + 10$
   (E) $y = -\frac{1}{2}x + 10$

6. ***Multiple Choice*** Which lines are perpendicular?

   (A) $y = \frac{1}{2}x + 6$, $y = -\frac{1}{2}x + 1$ (B) $y = 3x + \frac{1}{3}$, $y = 5x - 3$
   (C) $y = \frac{2}{3}x + 3$, $y = -\frac{3}{2}x - 1$ (D) $y = 2x + 3$, $y = \frac{1}{2}x - 2$
   (E) None of these

7. ***Multiple Choice*** Which of the following statements are true about lines w, n, p, and z?

   w: $y = \frac{3}{2}x + 2$
   n: $y = \frac{2}{3}x + 6$
   p: $y = -\frac{3}{2}x - 3$
   z: $y = \frac{2}{3}x + 1$

   I. $w \perp p$ II. $n \parallel z$ III. $z \perp p$

   (A) I only (B) II only
   (C) III only (D) I and II
   (E) II and III

8. ***Multi-Step Problem***

   a. On a coordinate plane, plot points $A(2, 1)$ and $B(5, 2)$.

   b. Find the equation of the line j passing through points A and B.

   c. Find the equation of the line k, perpendicular to line j and passing through point A.

   d. Find the equation of the line l, parallel to line k and passing through point B.

   e. ***Critical Thinking*** If the bottom of a rectangle lies along line j, and its sides lie on lines k and l, find the slope of the line representing the top.

Chapter 3