

Winter Break Geometry Pack
Optional



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"We're worried about you. Your teacher called and said you're actually handing in your homework instead of eating it."

Cumulative Review

For use after Chapters 1–2

Find the distance between the two points. Round your answers to the nearest hundredth. (1.3)

1. $A(6, 2), B(0, -3)$

2. $C(-7, 1), D(4, -5)$

3. $E(-2, -2), F(5, -4)$

4. $G(0, -4), H(3, 0)$

Find the coordinates of the midpoint of a segment with the given endpoints. (1.5)

5. $A(7, 1), B(3, 3)$

6. $A(7, 1), B(-2, 6)$

7. $A(3, -7), B(-2, 1)$

8. $A(0, -4), B(3, 8)$

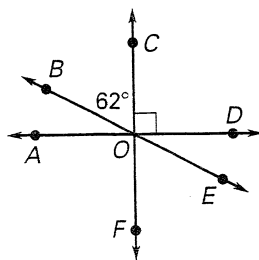
Find the measure of the angle without using a protractor. (1.4 and 1.6)

9. $\angle AOB$

10. $\angle DOE$

11. $\angle EOF$

12. $\angle BOF$

 $\angle A$ and $\angle B$ are supplementary. Find $m\angle A$ and $m\angle B$. (1.6)

13. $m\angle A = 6x + 8$

14. $m\angle A = 13x - 5$

$m\angle B = 10x - 20$

$m\angle B = 20x + 53$

15. $m\angle A = x + 39$

16. $m\angle A = 3x + 10$

$m\angle B = 6x - 6$

$m\angle B = 7x + 20$

Find the inverse, converse, and contrapositive of the statement. (2.1)

19. If two angles are right angles, then they are congruent.

20. If $x = 2$, then $x^2 = 4$.

Name the property used to make the conclusion. (2.4)

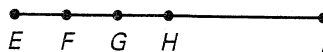
25. If $2x = 6$, then $x = 3$.26. If $42^\circ + m\angle 2 = 90^\circ$, then $m\angle 2 = 48^\circ$.27. If $AB = CD$, then $CD = AB$.28. If $m\angle D = 40^\circ$ and $m\angle E = 90^\circ - m\angle D$, then $m\angle E = 50^\circ$.29. If $m\angle J = 20^\circ$, then $3(m\angle J) = 60^\circ$.30. If $WX = YZ$, then $WX + AB = YZ + AB$.

Cumulative Review

For use after Chapters 1–3

In the diagram of collinear points, $EH = HI$, $EF = FG = GH$. If $GH = 4$, find each length. (1.3)

1. EG
2. HI
3. GI
4. EI



Write the (a) inverse and (b) converse of the statement. (2.2)

7. If an angle measures 120° , then it is an obtuse angle.
8. If an angle measures 90° , then it is not an acute angle.

Using p and q , write the symbolic statement in words. (2.3)

p : It is raining.

q : The sun is not shining.

9. $q \rightarrow p$

10. $\sim p \rightarrow \sim q$

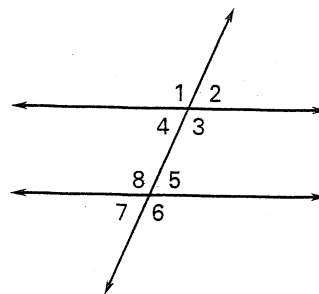
Solve the equation and write a reason for each step. (2.4)

11. $3x - 15 = 45$

12. $2(z + 5) = 26$

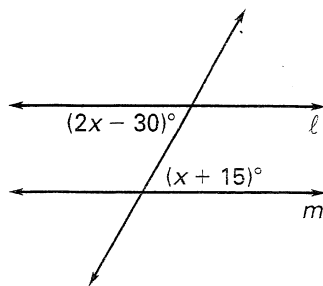
Complete the statement with *corresponding*, *alternate interior*, *alternate exterior*, or *consecutive interior*. (3.1)

13. $\angle 1$ and $\angle 6$ are _____ angles.
14. $\angle 4$ and $\angle 8$ are _____ angles.
15. $\angle 2$ and $\angle 5$ are _____ angles.
16. $\angle 3$ and $\angle 8$ are _____ angles.

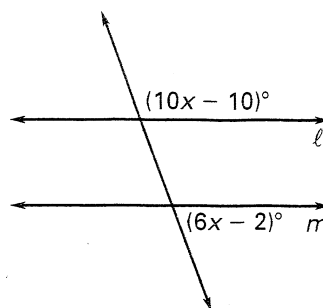


Find the value of x that makes $\ell \parallel m$. (3.4)

19.



20.



Find the slope of the line that is perpendicular to \overline{AB} . (3.7)

26. $A(7, -1), B(4, 2)$

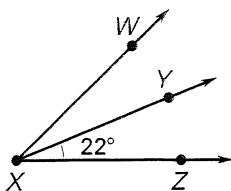
27. $A(-3, 6), B(7, 2)$

Cumulative Review

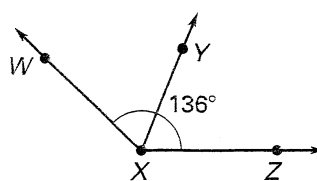
For use after Chapters 1-4

\overrightarrow{XY} is the angle bisector of $\angle WXZ$. Find the two angle measures not given in the diagram. (1.5)

1.



2.



$\angle A$ and $\angle B$ are supplementary. Find $m\angle A$ and $m\angle B$. (1.6)

3. $m\angle A = 5x + 2$

$m\angle B = 9x + 10$

4. $m\angle A = 20x + 4$

$m\angle B = 7x - 13$

Using p and q below, write the symbolic statement in words. (2.3)

p : Two angle measures have a sum of 180° .

q : The two angles are supplementary.

5. $q \rightarrow p$

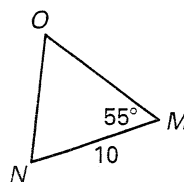
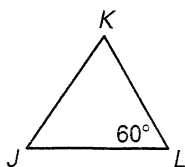
6. $\sim p \rightarrow \sim q$

In the diagram, $\triangle JKL \cong \triangle MNO$. Complete the statement. (4.2)

15. $\angle N \cong$?

16. $JK =$?

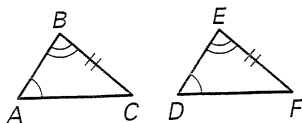
17. $m\angle K =$?



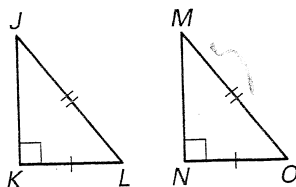
State the theorem used to prove the triangles are congruent.

(4.4, 4.6)

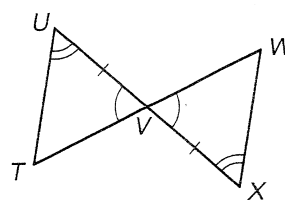
20.



21.



22.



Cumulative Review

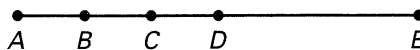
For use after Chapters 1–5

$AE = 30$, $AB = 5$, and $\overline{AB} \cong \overline{BC} \cong \overline{CD}$. Find each length. (1.3)

1. $AC = \underline{\hspace{2cm}}$

2. $AD = \underline{\hspace{2cm}}$

3. $CE = \underline{\hspace{2cm}}$



Solve each equation and write a reason for each step. (2.4)

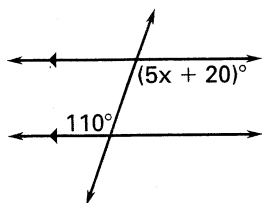
4. $p + 6 = 10$

5. $3a + 12 = 18$

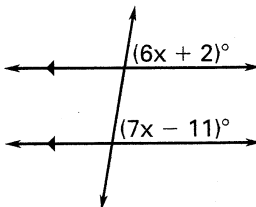
6. $2(c + 4) = 20$

Find the value of x . (3.3)

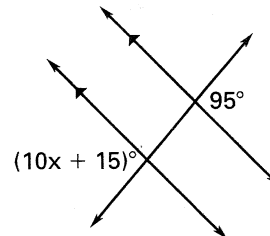
7.



8.



9.

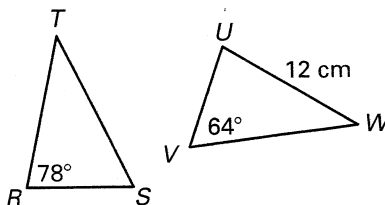


In the diagram, $\triangle RST \cong \triangle UVW$. Complete each statement. (4.2)

10. $m\angle S = \underline{\hspace{2cm}}$

11. $m\angle W = \underline{\hspace{2cm}}$

12. $RT = \underline{\hspace{2cm}}$

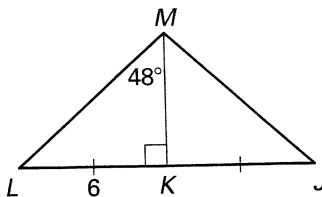


Using bisector theorems, give the angle measure or segment length. (5.1)

13. $JK = \underline{\hspace{2cm}}$

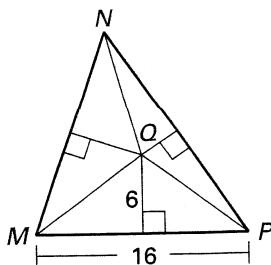
14. $m\angle MLK = \underline{\hspace{2cm}}$

15. $m\angle MJK = \underline{\hspace{2cm}}$

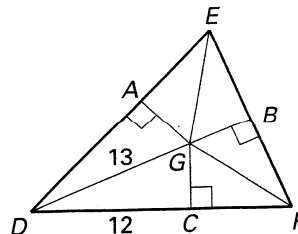


Find the indicated measure. (5.2)

16. The perpendicular bisectors of $\triangle MNP$ meet at Q . Find QN .



17. The angle bisectors of $\triangle DEF$ meet at G . Find GB .

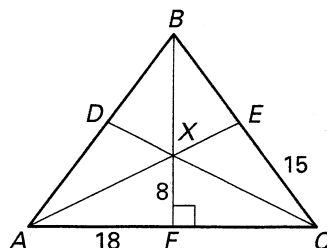


Cumulative Review

For use after Chapters 1-5

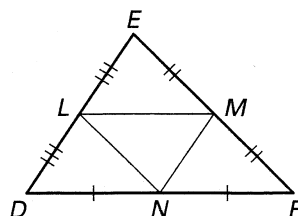
X is the centroid of $\triangle ABC$, $\overline{BF} \perp \overline{AC}$, $XF = 8$, $EC = 15$, $AF = 18$, and $\overline{AB} \cong \overline{BC}$. (5.3)

18. Find the length of \overline{BX} .
19. Find the length of \overline{FC} .
20. Find the length of \overline{BC} .
21. Find the perimeter of $\triangle ABC$.



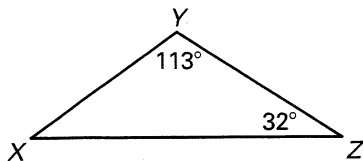
Complete the statements using $\triangle DEF$ where L , M and N are midpoints of each side. (5.4)

22. $\overline{LN} \parallel$?
23. $\overline{MN} \parallel$?
24. If $DF = 26$, then $LM =$?
25. If $EM = 10$, then $LN =$?
26. If perimeter of $\triangle DEF = 60$, then perimeter of $\triangle LMN =$?

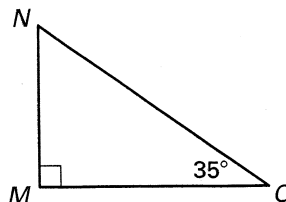


Name the shortest and longest side of the triangle. (5.5)

27.



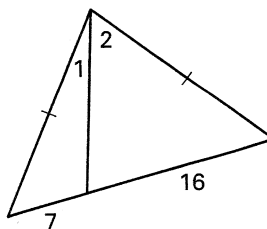
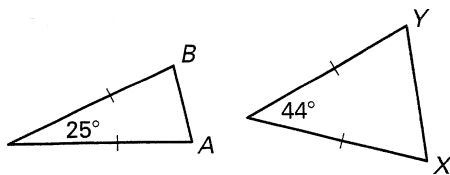
28.



Complete each _____ with $<$, $>$, or $=$. (5.6)

29. AB _____ XY

30. $m\angle 1$ _____ $m\angle 2$



Cum. Review

Ch. 2

1. $\sqrt{61} = 7.81$
2. $\sqrt{157} = 12.53$
3. $\sqrt{53} = 7.28$
4. $\sqrt{25} = 5$
5. $(5, 2)$
6. $(\frac{5}{2}, \frac{7}{2})$
7. $(\frac{1}{2}, -3)$
8. $(\frac{3}{2}, 2)$
9. 28°
10. 28°
11. 62°
12. 118°
13. $80^\circ, 100^\circ$
14. $47^\circ, 133^\circ$
15. $60^\circ, 120^\circ$
16. $55^\circ, 125^\circ$
- 19.
- 20.
25. Division
26. Subtraction
27. Symmetric
28. Substitution
29. Multiplication
30. Addition

Ch 3

1. 8
2. 12
3. 16
4. 24
- 7.
- 8.
9. If sun not shining, then raining
10. If not raining, then sun shining
11. $x=20$
12. $z=8$
13. Alt. Exterior
14. Consec. Interior
15. Corresponding
16. Alt. Interior
19. 45
20. 12
26. $m=1$
27. $m=5/2$

Ch 4

1. $22^\circ, 44^\circ$
2. $68^\circ, 68^\circ$
3. $62^\circ, 118^\circ$
4. $36^\circ, 144^\circ$
5. If supplementary then sum 180°
6. If not sum 180° , then not suppl.
15. $\angle K$
16. 10
17. 65°
20. AAS
21. HL
22. ASA

Ch 5

1. 10
2. 15
3. 20
4. $p=4$
5. $a=2$
6. $c=6$
7. $X=18$
8. $X=13$
9. $X=8$
10. 64°
11. 38°
12. 12 cm
13. 6
14. 42°
15. 42°
16. 10
17. 5
18. 16
19. 18
20. 30
21. 96
22. \overline{EF}
23. \overline{DE}
24. 13
25. 10
26. 30
27. Shortest = XY Longest = XZ
28. Shortest = MN Longest = NO
29. $AB < XY$
30. $m < 1 < m < 2$