

Geometry Chapter 3 - Chapter Review Solutions

7. $\angle 2$ and $\angle 7$, lines a and b , transversal d ; $\angle 3$ and $\angle 6$, lines c and d , transversal e ; $\angle 3$ and $\angle 8$, b and e , transversal c
8. $\angle 5$ and $\angle 8$, lines a and b , transversal c ; $\angle 2$ and $\angle 6$, a and e , transversal d
9. $\angle 1$ and $\angle 4$, lines c and d , transversal b ; $\angle 2$ and $\angle 4$, lines a and b , transversal d ; $\angle 2$ and $\angle 5$, lines c and d , transversal a add at end: ; $\angle 3$ and $\angle 4$, b and c , transversal e

10. $\angle 1$ and $\angle 7$, lines c and d , transversal b

11. corresp. angles

12. alt. int. angles

13. $m\angle 1 = 120$ because $\angle 1$ is a corresp. angle with a 120° angle.
 $m\angle 2 = 120$ because $\angle 1$ and $\angle 2$ are vert. angles.

14. $m\angle 1 = 75$ because $\angle 1$ is suppl. to a 105° angle. $m\angle 2 = 105$ because $\angle 2$ is an alt. int. angle with a 105° angle.

15. 3 adjacent angles, 118 , y , and 25 together make a straight angle, or 180 .

$$180 = 118 + y + 25$$

$$180 = 143 + y$$

$$37 = y$$

x is a corresp. angle to a 118° angle, so $x = 118$

16. alt. int. angles are \cong .

$$3x + 5 = 65 \text{ (def of } \cong \text{ angles)}$$

$$3x = 60 \text{ (Subtract 5 from each side.)}$$

$$x = 20 \text{ (Divide each side by 3.)}$$

17. The angles are suppl.

$$(2x + 10) + 130 = 180 \text{ (def of suppl. angles)}$$

$$2x + 140 = 180 \text{ (Combine like terms.)}$$

$$2x = 40 \text{ (Subtract 140 from each side.)}$$

$$x = 20 \text{ (Divide each side by 2.)}$$

18. $n \parallel p$; if corresp. angles are \cong , then the lines are \parallel .

19. none; $\angle 3$ and $\angle 6$ form a linear pair.

22. \parallel

23. a

25. $120 = x + 60$ (Triangle Ext. Angle Thm.)

$$60 = x \text{ (Subtract 60 from each side.)}$$

$$180 = 60 + 60 + y \text{ (Triangle Angle Sum Thm.)}$$

$$180 = 120 + y \text{ (Combine like terms.)}$$

$$60 = y \text{ (Subtract 120 from each side.)}$$

26. $135 = x + 90$ (Triangle Ext. Angle Thm.)

$$45 = x \text{ (Subtract 90 from each side.)}$$

$$180 = 90 + 45 + y \text{ (Triangle Angle Sum Thm.)}$$

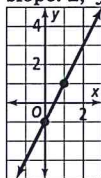
$$180 = 135 + y \text{ (Combine like terms.)}$$

$$45 = y \text{ (Subtract 135 from each side.)}$$

$$34. m = \frac{3 - (-2)}{1 - 6} = \frac{5}{-5} = -1$$

$$35. m = \frac{-5 - 2}{-7 - (-7)} = \frac{-7}{0} \text{ undefined}$$

36. slope: 2; y-intercept: -1



$$38. y = -\frac{1}{2}x + 12$$

$$39. y + 9 = 3(x - 1)$$

P. 211 22) A) given
 B) corresponding
 C) given
 D) transitive
 E) converse of correspond.

P. 194 34, 35

34) $x = 4$ vertical
 $y = 7$ horizontal

35) $x = 3$ vertical
 $y = -2$ horizontal