Chapter 3 Review

1. Name a pair of parallel planes.

2. Use the figure below.

For the cube shown, $\overrightarrow{AD}$ and $\overleftrightarrow{HG}$ are _____.
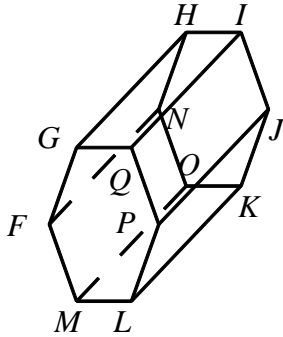
[A] perpendicular lines   [B] oblique lines   [C] parallel lines   [D] skew lines

3. In the figure, ∡6 and ∡3 are _____.

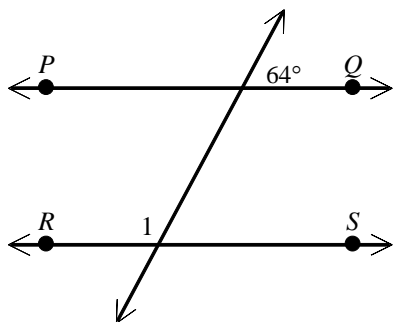
[A] consecutive interior angles   [B] corresponding angles

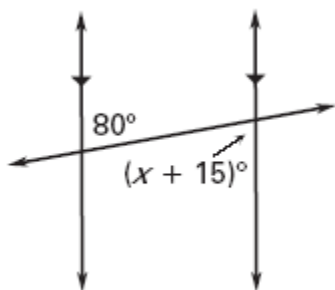[C] alternate exterior angles   [D] alternate interior angles
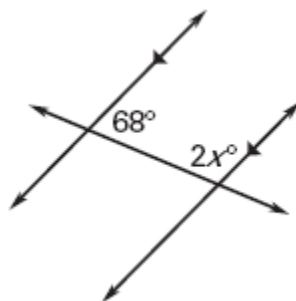
Name_____

Date_____

Chapter 3 Review

4. Find $m\angle 1$ in the figure below. $\overleftrightarrow{PQ}$ and $\overleftrightarrow{RS}$ are parallel.
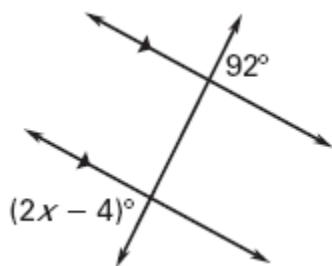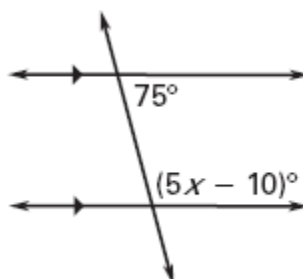

Find the value of x.

5. 6.

7.   8.
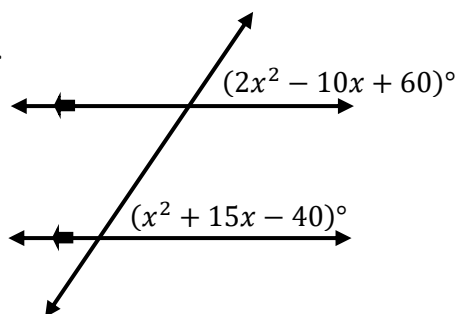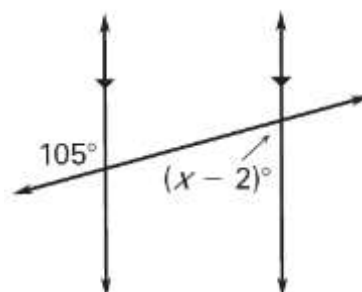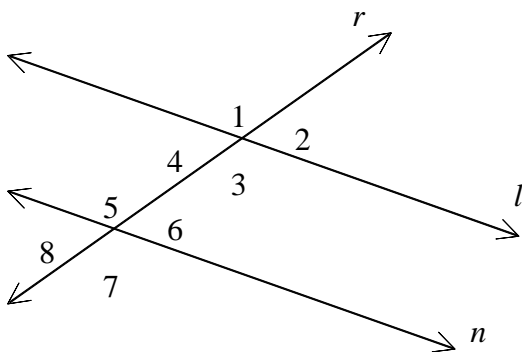

9.   10.

Chapter 3 Review

11. In the figure, $l \parallel n$ and r is a transversal. Which of the following is not necessarily true?

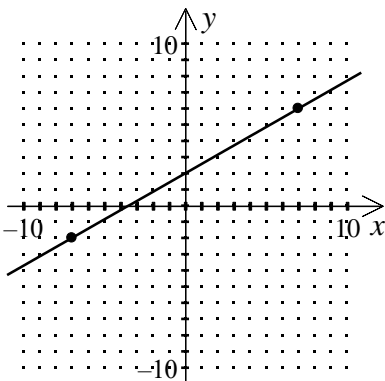[A] $\angle 8 \cong \angle 2$ [B] $\angle 5 \cong \angle 3$ [C] $\angle 7 \cong \angle 4$ [D] $\angle 2 \cong \angle 6$

12. Find the slope of the line passing through the points $A(5, -1)$ and $B(-8, 3)$.

13. Find the slope of the line.

14. What is the slope of a line parallel to the line $5x + 3y = 7$? (Rewrite in y=mx+b form)

15. Write the slope-intercept form of the equation of the line passing through the point $(-3, 1)$ and parallel to the line $y = 3x - 3$.

16. Write the equation of the line that is parallel to $y = \frac{1}{3}x - 3$ and passes through the point $(6, 2)$.

17. A line L_1 has slope $-\frac{2}{7}$. State whether the line that passes through $(3, -4)$ and $(-4, -2)$ is parallel or perpendicular to line L_1.

Name_____

Date_____

Chapter 3 Review

18. Which best describes the relationship between the lines with equations
(Rewrite in y=mx+b form)

$$-5x - 7y = 1 \text{ and } -20x - 28y = 4$$

[A] perpendicular   [B] same line   [C] neither parallel nor perpendicular   [D] parallel

19.   Which best describes the relationship between the line that passes through (−2, 6) and
(3, 8) and the line that passes through (7, 5) and (5, 10)?

20. Decide whether **Line 1** and **Line 2** are parallel, perpendicular, or neither.
Line 1 passes through (−3, −7) and (−7, −5)
Line 2 passes through (−5, −2) and (−7, −6)

21. A line L_1 has slope 3.   The line that passes through which of the following pairs of points
is perpendicular to L_1?

[A] (−9, −2) and (−6, −1)   [B] (−5, −6) and (−4, −3)

[C] (2, −6) and (−4, −3)   [D] (−3, −5) and (−6, −4)

22. Write the slope-intercept form of the equation of the line passing through the point (3, 3)
and perpendicular to the line $y = \frac{2}{5}x + 5$.

23. A line is perpendicular to $y = \frac{x}{3} - 2$ and passes through point (6, 2). Write its equation.

24.   If the pattern indicated below is continued, what would be the total number of cubes in the 7th
stage of the pattern?

1,   1+4=5,   1+4+9=14
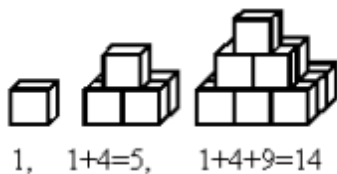
a.   130   b.   64   c.   8   d.   140
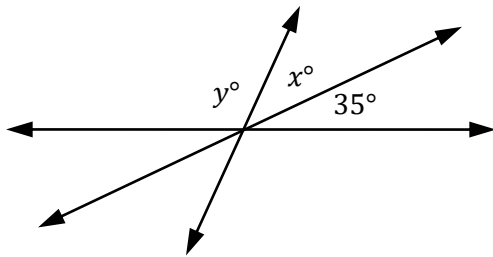
Name_____

Date_____

Chapter 3 Review

Use inductive reasoning to find the next two numbers in each pattern.

25.   16, 18, 20, 22, ___, ___

26.   2, 4, 8, 16, ___, ___

27.   Three lines intersect in the figure shown. What is the value of x + y?

Name_____

Date_____

Chapter 3 Review Answers

1. $Plane\ FML \parallel Plane\ NOK$

2. D

3. A

4. 116

5. 65

6. 56

7. 48

8. 23

9. 5

10. 77

11. C

12. $\dfrac{-4}{13}$

13. $\dfrac{4}{7}$

14. $\dfrac{-5}{3}$

15. $y = 3x + 10$

16. $y = \dfrac{1}{3}x$

17. Parallel

18. B

19. Perpendicular

20. Perpendicular

21. D

22. $y = \dfrac{-5}{2}x + \dfrac{21}{2}$

23. $y = -3x + 20$

24. D

25. 24, 26

26. 32, 64

27. 145°