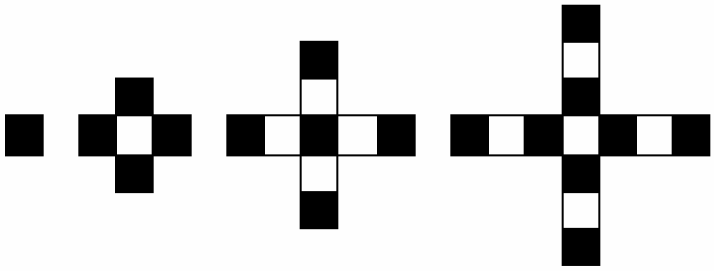
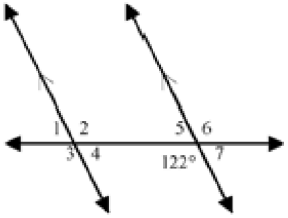
Name: _____ **Class:** _____ **Date:** _____ **ID: A**

Geometry Mastery Test #3 Review

1. If the pattern were continued, what would be the ratio of the number of unshaded squares to the number of shaded squares in the next figure in the pattern?



2. Use the figure to find the measure of $\angle 4$.

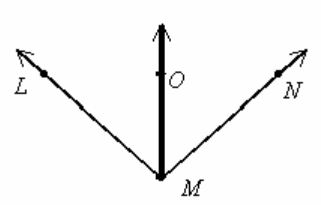


3. Find the slope of the line passing through the points $A(6, -3)$ and $B(-1, 7)$.

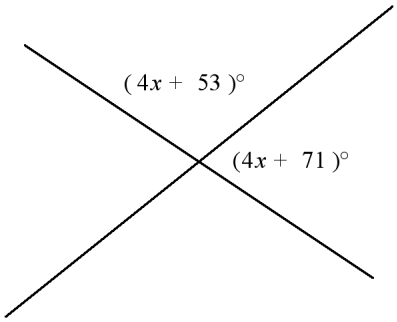
4. Find the distance between the points $(2, 6)$ and $(3, -4)$.

5. $\angle 1$ and $\angle 2$ form a linear pair. If $m\angle 2 = 67°$, what is $m\angle 1$?

6. In the figure (not drawn to scale), $\overrightarrow{MO}$ bisects $\angle LMN$, $m\angle LMO = (19x - 28)°$, and $m\angle NMO = (x + 80)°$. Solve for x and find $m\angle LMN$.



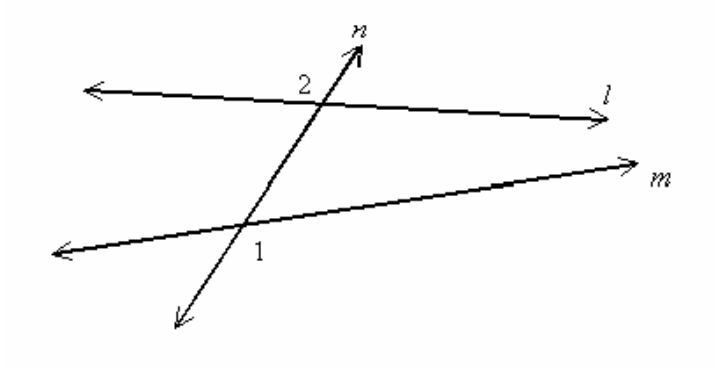
7. Solve for x:



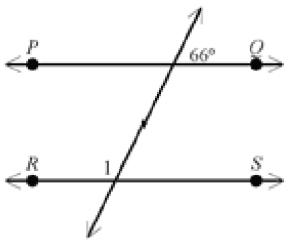
8. Find the slope-intercept form of the line passing through the point $(-8, -2)$ and parallel to the line $y = -6x + 1$.

9. The expressions $5x - 4$ and $3x$ represent two side lengths (in meters) of a regular octagon. Find the length of a side of the octagon.

10. In the figure, $\angle 1$ and $\angle 2$ are _____.

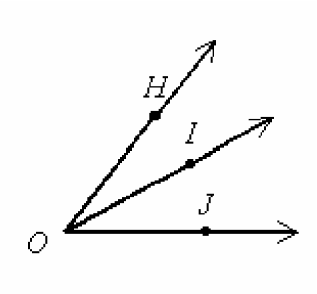


11. Find $m\angle 1$ in the figure below. $\overleftrightarrow{PQ}$ and $\overleftrightarrow{RS}$ are parallel.



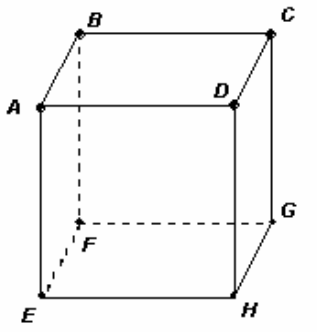
12. The midpoint of $\overline{CD}$ is $M(0, 1)$. One endpoint is $C(4, -6)$. Find the coordinates of the other endpoint.

13. If $m\angle HOJ = 50°$ and $m\angle HOI = 23°$, then what is the measure of $\angle IOJ$?



14. Find the slope of a line perpendicular to the line containing the points (–5, 8) and (–3, 3).

Use the figure below.



15. For the cube shown, $\overleftrightarrow{AD}$ and $\overleftrightarrow{HG}$ are _____.

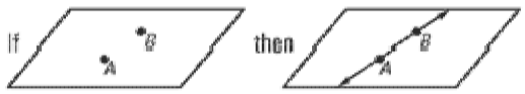
Other

Identify the property that makes the statement true.

16. If $MP = PQ$ and $PQ = QR$, then $MP = QR$.

17. Identify the hypothesis and conclusion of the statement.
If yesterday was Monday, then tomorrow is Wednesday.

State the postulate indicated by the diagram.

18. 

Geometry Mastery Test #3 Review
Answer Section

SHORT ANSWER

1. ANS:
$\frac{8}{9}$

TOP: Lesson 2.1 Use Inductive Reasoning

2. ANS:
58°

TOP: Lesson 3.2 Use Parallel Lines and Transversals

3. ANS:
$-\frac{10}{7}$

TOP: Lesson 3.4 Find and Use Slopes of Lines

4. ANS:
$\sqrt{101}$

TOP: Lesson 1.3 Use Midpoint and Distance Formulas

5. ANS:
113°

TOP: Lesson 2.7 Prove Angle Pair Relationships

6. ANS:
6, 172°

TOP: Lesson 1.4 Measure and Classify Angles

7. ANS:
$x = 7$

TOP: Lesson 1.5 Describe Angle Pair Relationships

8. ANS:
$y = -6x - 50$

TOP: Lesson 3.5 Write and Graph Equations of Lines

9. ANS:
6 meters

TOP: Lesson 1.6 Classify Polygons

10. ANS:
alternate exterior angles

TOP: Lesson 3.1 Identify Pairs of Lines and Angles
11. ANS:
114°

TOP: Lesson 3.2 Use Parallel Lines and Transversals
12. ANS:
(–4, 8)

TOP: Lesson 1.3 Use Midpoint and Distance Formulas
13. ANS:
27°

TOP: Lesson 1.4 Measure and Classify Angles
14. ANS:
$\frac{2}{5}$

TOP: Lesson 3.4 Find and Use Slopes of Lines
15. ANS:
skew lines

TOP: Lesson 3.1 Identify Pairs of Lines and Angles

OTHER

16. ANS:
Transitive Property of Equality

TOP: Lesson 2.5 Reason Using Properties from Algebra
17. ANS:
hypothesis: yesterday was Monday, conclusion: tomorrow is Wednesday

TOP: Lesson 2.2 Analyze Conditional Statements
18. ANS:
If two points lie in a plane, then the line containing them lies in the plane.

TOP: Lesson 2.4 Use Postulates and Diagrams