

Date: \_\_\_\_\_

Instructors: Peter Curley, Channing Hodgkins, Jared Lyons

Student Name/ID#: \_\_\_\_\_

Total Score:  / 100
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ARCHBISHOP WILLIAMS HIGH SCHOOL - AWHS SUMMER MATH ASSIGNMENTS: SECTION 1

## Students Entering GEOMETRY (Accelerated and College Prep) - Summer Assignment

**INSTRUCTIONS:** This assignment is to help prepare you for Geometry by helping you recall key, foundation topics. Answer all questions. SHOW ALL SUPPORTING WORK as required by the problem. Do your own work.

Each problem has a topic resource name which you can use to look up the topic covered.

### QUESTION 1

 /1

**Topic Resource: Place Value**

Which of the following is the place value of the underlined digit? 35.1789

- |  |  |
|--|--|
| A <input type="checkbox"/> tenths      | B <input type="checkbox"/> ten-thousandths |
| C <input type="checkbox"/> thousandths | D <input type="checkbox"/> hundredths      |

### QUESTION 2

 /1

**Topic Resource: Rounding Decimals**

Which of the following is the number 357.185 rounded to the nearest tenth?

- |                                  |                                |
|----------------------------------|--------------------------------|
| A <input type="checkbox"/> 357.1 | B <input type="checkbox"/> 350 |
| C <input type="checkbox"/> 357.2 | D <input type="checkbox"/> 360 |

### QUESTION 3

 /1

**Topic Resource: Combining Like Terms**

Which of the following is the simplified form of the expression:  $(3x - 4) + (8x - 7)$

- |   |                                       |
|---|---------------------------------------|
| A <input type="checkbox"/> $24x^2 - 53x + 28$ | B <input type="checkbox"/> $11x - 11$ |
| C <input type="checkbox"/> $24x^2 - 53x - 28$ | D <input type="checkbox"/> $11x - 3$  |

## QUESTION 4

 /1

**Topic Resource: Combining Like Terms**

Which of the following is the simplified form of the expression:  $(2x - 9) - (3x - 5)$

A   $6x^2 - 37x + 45$

B   $6x^2 - 37x - 45$

C   $-x - 4$

D   $-x - 14$

## QUESTION 5

 /1

**Topic Resource: Multiplying Polynomials**

Which of the following is the expanded form of the expression:  $(x + 7)(x - 4)$

A   $x^2 - 3x - 28$

B   $x^2 + 3x - 28$

C   $x^2 - 28$

D   $2x + 3$

## QUESTION 6

 /1

**Topic Resource: Order of Operations**

Which of the following is the expression in simplest form?

$$\sqrt{(1 - (-5))^2 + (-3 - 5)^2}$$

A  10

B   $\sqrt{-28}$

C  100

D  -28

## QUESTION 7

 /1

**Topic Resource: Adding Fractions**

Janet added the fractions  $\frac{4}{5} + \frac{1}{3}$  and thought the answer was  $\frac{5}{8}$ .

She was incorrect.

What is the correct answer?

A   $\frac{4}{15}$

B   $\frac{17}{15}$

C   $\frac{12}{15}$  or  $\frac{4}{5}$

QUESTION 8

 /1
**Topic Resource: Divide Fractions**

Simplify  $\left(-\frac{5}{6}\right) \div \left(-\frac{1}{2}\right)$

A   $\frac{5}{12}$

B   $\frac{5}{3}$

C   $-\frac{5}{3}$

D   $-\frac{5}{12}$

QUESTION 9

 /1
**Topic Resource: Simplify Rational Expressions**

Simplify  $\frac{9x-6y}{3}$

A   $6x - 2y$

B   $6x - 3y$

C   $3x - 2y$

D   $3x - 6y$

QUESTION 10

 /1

**Topic Resource: Solving Equations****Solve the equation:**

$$5x - 15 + 9x = 3x + 29$$

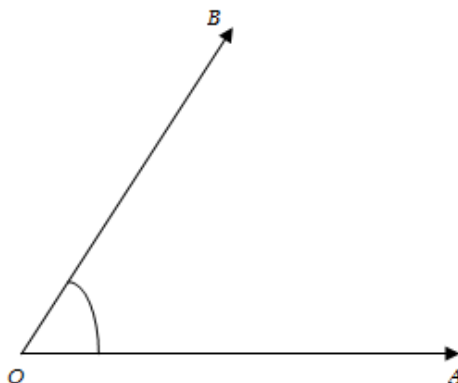
**A**   $x = 7$

**B**   $x = 44$

**C**   $x = \frac{14}{11}$

**D**   $x = 4$

QUESTION 11

 /1**Topic Resource: Measuring Angles****Measure  $\angle BOA$  to the nearest degree using the protractor.** Protractor

**A**  57 degrees

**B**  123 degrees

**C**  55 degrees


**D**  125 degrees

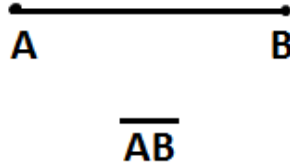
QUESTION 12

 /1

**Topic Resource: Using a Ruler**

Use the ruler to select the best measurement of  $\overline{AB}$ .

 Ruler



A  4.5 cm


B  4.1 cm

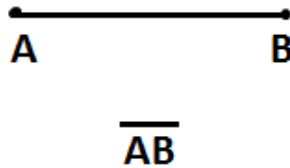
QUESTION 13

/1

**Topic Resource: Using a Ruler**

Use the ruler to select the best measurement of  $\overline{AB}$ .

 Ruler



A   $1\frac{3}{8}$  in

B   $1\frac{5}{8}$  in

C   $1\frac{3}{4}$  in

D   $1\frac{1}{2}$  in

QUESTION 14

/1

**Topic Resource: Ratios**

What is the ratio of 0.6 : 2.4 written in simplest form?

A  1:4

B  4:1

C  3:4

D  4:3

QUESTION 15

/1

**Topic Resource: Order of Operations**

Which of the following is equivalent to  $(-21)^2$  ?

A  -42

B  441

C  42

D  -441

QUESTION 16

/1

**Topic Resource: Literal Equations**

The formula for the surface area of a sphere is  $A = 4\pi r^2$ . What is the formula solved for  $r$  ?

A   $r = \frac{A}{2\pi}$

B   $r = \frac{1}{2} \sqrt{\frac{A}{\pi}}$

C   $r = 2 \sqrt{\frac{A}{\pi}}$

D   $r = \frac{A}{2\sqrt{\pi}}$

QUESTION 17

/1

**Topic Resource: Area Word Problems**

You are building a rectangular dog pen with an area of  $90 \text{ ft}^2$ .

You want the length of the pen to be 3 feet longer than twice the width.

Which equation can you use to find the width  $w$  of the pen?

A   $90 = w(2w + 3)$

B   $90 = 2w(w + 3)$

C   $90 = (2 + w)(w + 3)$

D   $90 = w(w + 3)$

QUESTION 18

/1

Topic Resource: Evaluating Expressions

Evaluate the expression,  $\sqrt{(7 - a)^2 + (2 - b)^2}$ , where  $a = 4$  and  $b = -2$ .

A  5

B  7

C  3

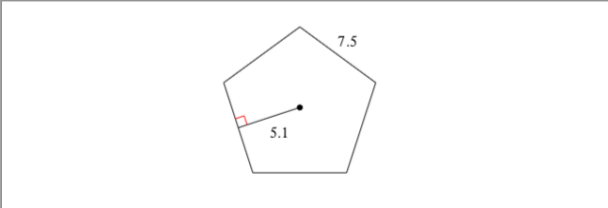
D   $\sqrt{85}$

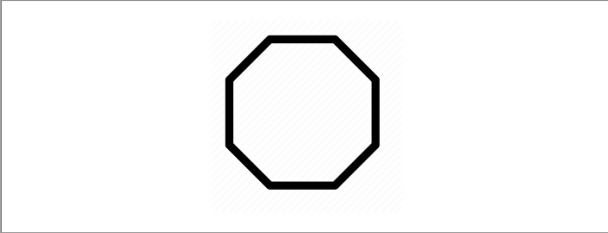
QUESTION 19

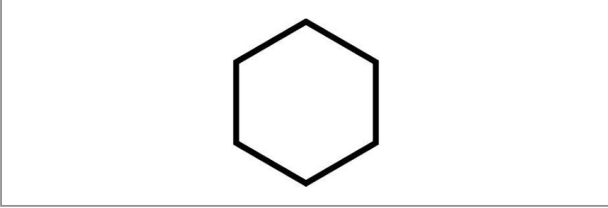
/3

Topic Resource: Names of Polygons

Match each shape with its name, by dragging the correct name next to the shape.

A 

B 

C 

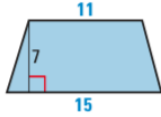

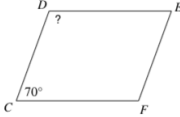

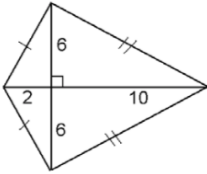

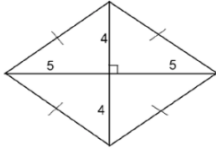

1 pentagon   2 octagon   3 hexagon   4 heptagon   5 decagon

QUESTION 20

/1

**Topic Resource: Special quadrilaterals**

Match the name of the special quadrilateral, by dragging the name into the correct space.

A			<div style="border: 1px dashed gray; width: 100%; height: 100%;"></div>
B			<div style="border: 1px dashed gray; width: 100%; height: 100%;"></div>
C			<div style="border: 1px dashed gray; width: 100%; height: 100%;"></div>
D			<div style="border: 1px dashed gray; width: 100%; height: 100%;"></div>

1 rhombus

2 parallelogram

3 rectangle

4 kite

5 trapezoid

6 square

QUESTION 21

/1



**Topic Resource: Solving Equations**

Describe and correct the error that was made in solving the equation.



$$6(2y + 6) = 4(9 + 3y)$$

$$12y + 36 = 36 + 12y$$

$$12y = 12y$$

$$0 = 0$$

The equation has no solution.

QUESTION 22

 /1**Topic Resource: Solving Equations**

Describe and correct the error that was made in solving the equation.



$$5c - 6 = 4 - 3c$$

$$2c - 6 = 4$$

$$2c = 10$$

$$c = 5$$

QUESTION 23

 /1

**Topic Resource: Solving Equations**

Describe and correct the error that was made in solving the equation.



$$\begin{aligned}3x - 7 &= -2x + 8 \\3x + (-2x) &= 8 + 7 \\x &= 15\end{aligned}$$

QUESTION 24

 /1**Topic Resource: Solving Equations**

Describe and correct the error that was made in solving the equation.



$$\begin{aligned}2(v - 5) &= -(3v + 5) \\2v - 10 &= -3v + 5 \\5v &= 15 \\v &= 3\end{aligned}$$

QUESTION 25

 /1

**Topic Resource: Solving Equations**

Describe and correct the error that was made in solving the equation.

$$\begin{array}{r} \frac{x}{6} + 3 = -18 \\ \quad -3 \quad -3 \\ \hline 6 \bullet \frac{x}{6} = -15 \bullet 6 \\ x = -90 \end{array}$$

QUESTION 26

 /5

Topic Resource: Basic Geometric Terms

Match the term and definition with the correct diagram, by dragging the illustration to the correct definition.

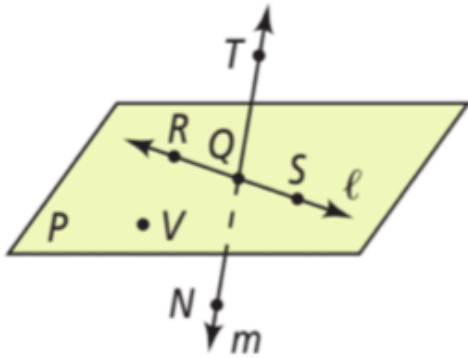
A	A point indicates a location and has no size.		
B	A line is represented by a straight path that extends in two opposite directions without end and has no thickness.		
C	A plane is represented by a flat surface that extends without end and has no thickness.		
D	A segment is a part of a line that consists of two end points and all points between them.		
E	A ray is part of a line that consists of one end point and all the points of the line on one side of the endpoint.		


QUESTION 27

/1

**Topic Resource: Basic Geometric Definitions**

Points that lie on the same line are collinear points. Points and lines that lie in the same plane are coplanar.



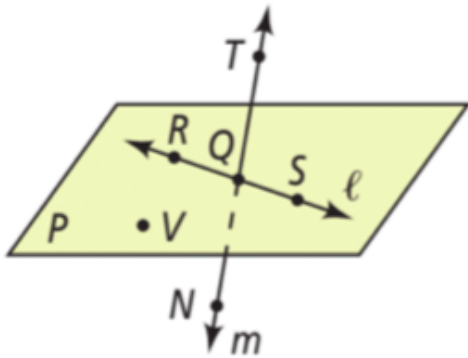
In the above diagram, points R, Q & S are collinear.

- A  True
- B  False

QUESTION 28

 /1**Topic Resource: Basic Geometric Terms**

Points that lie on the same line are collinear points. Points and lines that lie in the same plane are coplanar.



In the above diagram, points T, Q & S are collinear.

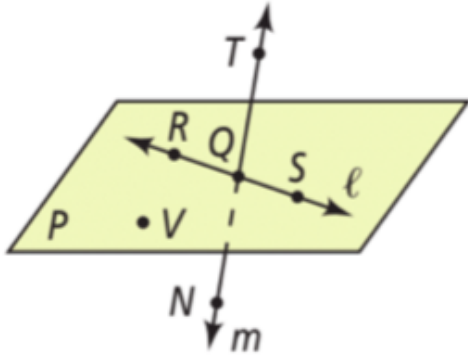
- A  True
- B  False

QUESTION 29

 /1

**Topic Resource: Basic Geometric Terms**

Points that lie on the same line are collinear points. Points and lines that lie in the same plane are coplanar.



In the above diagram, points R, Q & V are coplanar.

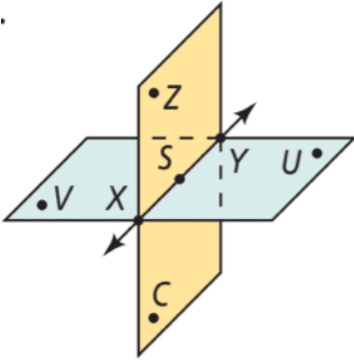
- A  True
- B  False

QUESTION 30

/1

**Topic Resource: Basic Geometric Terms**

Points and lines that lie in the same plane are coplanar.



Select coplanar or noncoplanar to describe the points.

1. Z, S, Y, C

2. X, Y, Z, U

3. X, Z, S, V

Choose one option for each blank section

1	noncoplanar	2	noncoplanar	3	noncoplanar
1	coplanar	2	coplanar	3	coplanar

QUESTION 31

/1

**Topic Resource: Basic Geometric Terms**

If two lines intersect, then they intersect in exactly one point, called the point of intersection.



In the diagram above, the point of intersection is

1	
---	--



Choose one option for each blank section

1	Point A
---	---------

1	Point B
---	---------

1	Point C
---	---------

1	Point D
---	---------

1	Point E
---	---------