

Date: _____

Instructors: Peter Curley, Channing Hodgkins, Jared Lyons

Student Name/ID#: _____

Total Score: / 100

ARCHBISHOP WILLIAMS HIGH SCHOOL - AWHS SUMMER MATH ASSIGNMENTS: SECTION 1

Students Entering GEOMETRY HONORS - 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"/> thousandths |
| C <input type="checkbox"/> ten-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"/> 360 | B <input type="checkbox"/> 350 |
| C <input type="checkbox"/> 357.2 | D <input type="checkbox"/> 357.1 |

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

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 $x^2 - 28$

B $2x + 3$

C $x^2 - 3x - 28$

D $x^2 + 3x - 28$

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 100

C -28

D $\sqrt{-28}$

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

B $\frac{17}{15}$

C $\frac{4}{15}$

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 $6x - 3y$

B $3x - 2y$

C $6x - 2y$

D $3x - 6y$

QUESTION 10

 /1

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

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


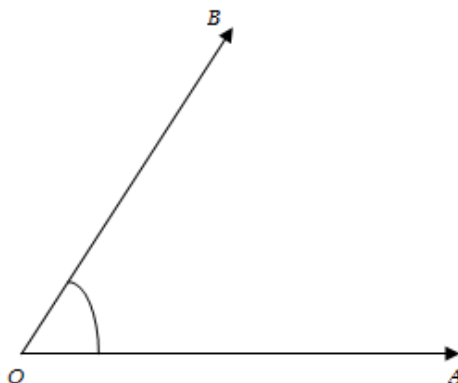
A $x = 44$

B $x = 4$

C $x = 7$

D $x = \frac{14}{11}$

QUESTION 11

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

A 57 degrees

B 125 degrees

C 55 degrees

D 123 degrees

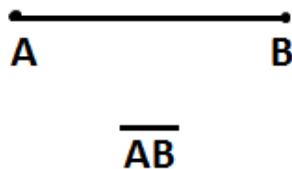
QUESTION 12

 /1

Topic Resource: Using a Ruler

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

 Ruler



A 4.1 cm


B 4.5 cm

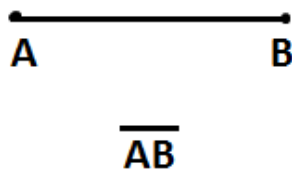
QUESTION 13

/1

Topic Resource: Using a Ruler

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

 Ruler



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

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

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

D $1\frac{3}{4}$ 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 -441

B -42

C 441

D 42

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

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

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

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

QUESTION 17

/1

Topic Resource: Area Word Problems

You are building a rectangular dog pen with an area of 90 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 $90 = w(w + 3)$

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

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

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

QUESTION 18

/1

Topic Resource: Evaluating Expressions

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

A $\sqrt{85}$

B 7

C 5

D 3

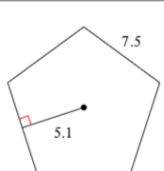
QUESTION 19

/3

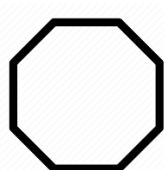
Topic Resource: Names of Polygons

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

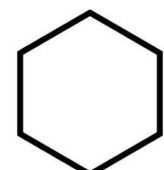
A



B



C



1 pentagon

2 octagon

3 hexagon

4 heptagon

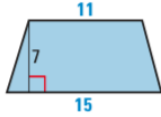

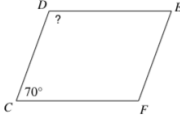

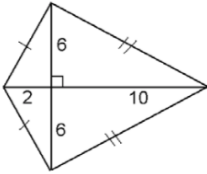

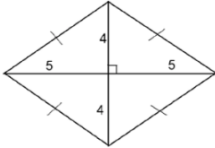

5 decagon

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.		

1

2

3

4

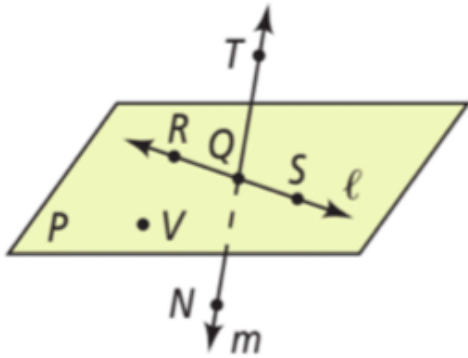
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QUESTION 27

/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.



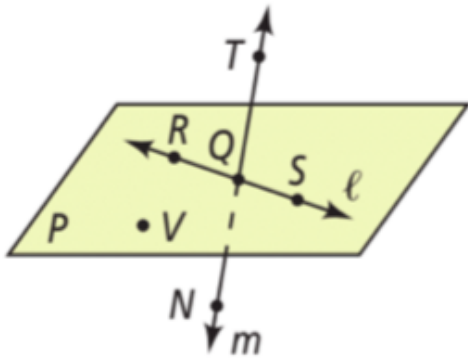
In the above diagram, points R, Q & S are collinear.

- 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.

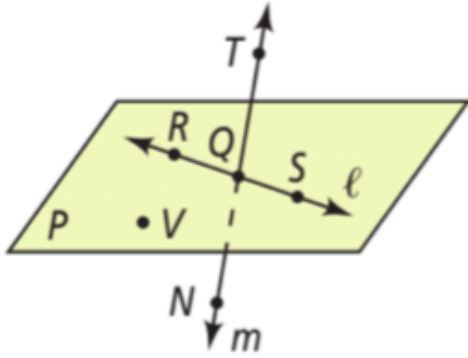
- A True
- B False

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.

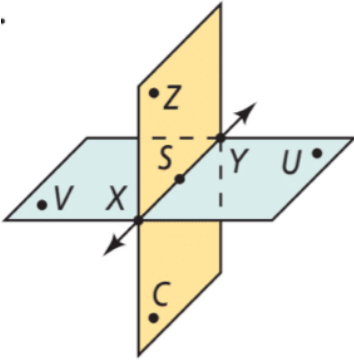
- A True
- B False

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
---	---------

QUESTION 32

	/1
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Topic Resource: Solving Quadratics

Solve the following quadratic for x : $x^2 + 4x + 4 = 16$

A $x = 2$

B $x = -6$

C $x = 2$ or $x = -6$

D none of the above

QUESTION 33

	/1
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Topic Resource: factoring Quadratics**Factor the following quadratic: $6x^2 + 11x - 10$**

A $(3x + 2)(2x - 5)$

B $(2x - 2)(3x + 5)$

C $(3x - 2)(2x + 5)$

D $(2x + 2)(3x - 5)$