

Name: _____

**** SHOW ALL WORK!!****

Geometry w/ Trig Summer Assignment 2018 - 2019

*Take your time and be focused when you work on each problem. To be successful in this course, you are expected to know and be familiar with these foundational skills/concepts. A simple **Google search** (e.g. solving algebraic equations, area formulas, how to use the Pythagorean Theorem) or **Peer Tutoring** (see below) are great resources for you.*

Also, remember to bring this with you on your first day of school in September!

PART I: Solve for x in the equation given. Show all work.

1. $\frac{x}{8} = \frac{7}{5}$	2. $-3x = 9x + 2$
3. $6x = \frac{1}{2}(2x + 5)$	4. $2x - 3(x + 8) = -21$

PART II: Factor completely. Solve the equations in #8 & 10.

5. Factor the expression: $x^2 - 10x + 9$	6. Factor the expression: $10x^2 + 20x - 240$
7. Factor the expression: $3x^2 - 10x + 8$	8. Solve the equation by factoring: $2x^2 + 2x - 4 = 0$
9. Factor the expression: $25x^2 - 64$	10. Solve the equation by factoring: $x^2 + 10x + 25 = 0$

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PART III: Simplify, if possible. Leave in simplest radical form. Do not give a decimal answer.

11. $\sqrt{8}$

12. $\frac{\sqrt{54}}{\sqrt{2}}$

13. $-2\sqrt{45} \cdot 4\sqrt{2}$

14. $\sqrt{14}$

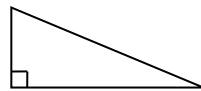
15. $\sqrt{27} - 2\sqrt{3}$

16. $25 + \sqrt{36} + \sqrt{49}$

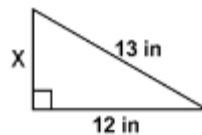
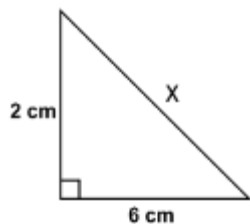
17. The Pythagorean Theorem is $a^2 + b^2 = c^2$, where a , b , and c are the side lengths of a right triangle. The legs are represented by a and b , and the hypotenuse is represented by c .

a) Is the hypotenuse always the *longest* or *shortest* side of a right triangle? _____

b) Label the right triangle with a , b , and hypotenuse c .



c) Use the Pythagorean Theorem to find the missing side of each triangle below.
Leave answers in simplest radical form, when possible. (No rounding to a decimal!)

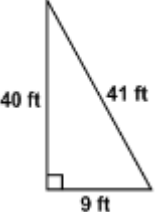


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PART IV: Find the area and perimeter of each figure. Show all work, including the formula. INCLUDE UNITS!

18.

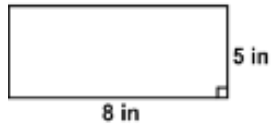
Formula for Area of Triangle = _____



Area = _____ Perimeter = _____

19.

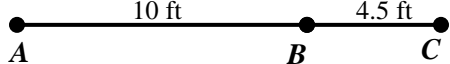
Formula for Area of Rectangle = _____



Area = _____ Perimeter = _____

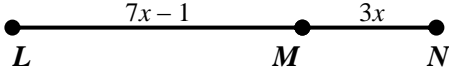
PART V: Using Algebra to Represent Measurements. Fill in the blanks with the correct answers.

20a. Use the diagram to find the length of segment AC.



Length of segment AC = _____ ft

20b. Use the diagram to find an algebraic expression that represents the length of segment LN.



Algebraic expression that represents the length of segment LN

= _____

= _____ (simplify)

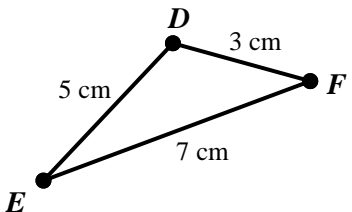
20c. If $x = 3$ in part (b), what are the lengths of segments LM, MN, and LN?

LM = _____

MN = _____

LN = _____

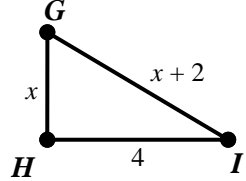
21a. Use the diagram to find the perimeter of $\triangle DEF$.



Perimeter of $\triangle DEF$

= _____ cm

21b. Use the diagram to find an algebraic expression that represents the perimeter of $\triangle GHI$.



Algebraic expression that represents the perimeter of $\triangle GHI$

= _____

= _____ (simplify)

21c. If $x = 3$ in part (b), find the following:

GH = _____

HI = _____

GI = _____

Perimeter = _____

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PART VI: Matching Section

Match the vocabulary word on the left with the diagram (a-p) on the right.

____ 22. Line

____ 23. Ray

____ 24. Segment

____ 25. Pyramid

____ 26. Isosceles Triangle

____ 27. Equilateral Triangle

____ 28. Right Triangle

____ 29. Acute angle

____ 30. Obtuse angle

____ 31. Right angle

____ 32. Cylinder

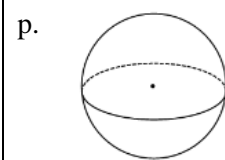
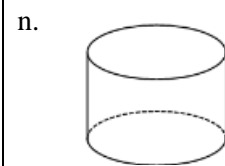
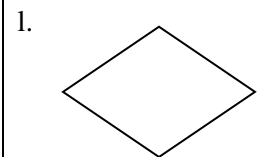
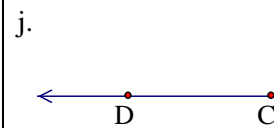
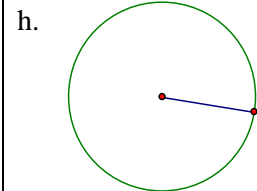
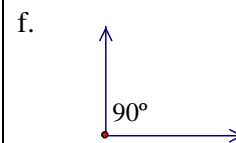
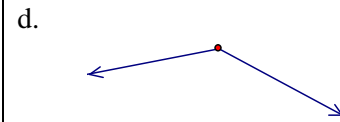
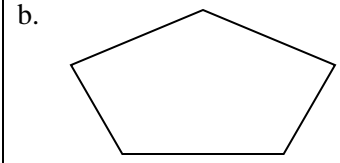
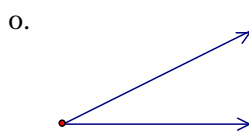
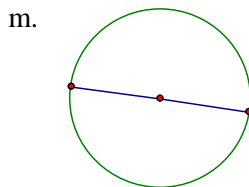
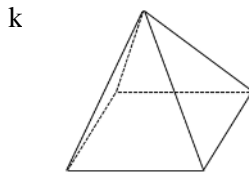
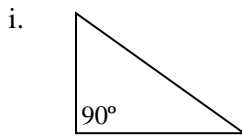
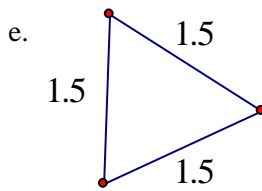
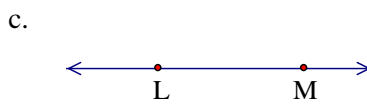
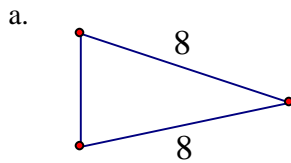
____ 33. Radius

____ 34. Diameter

____ 35. Quadrilateral

____ 36. Pentagon

____ 37. Sphere



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