**Advanced Geometry**
**Summer Assignment**

**Name:**_____
**Date:**_____
**Hour:**_____

**Directions:** **Please circle final answers. Show all work and any setups for equations used.**
**This assignment is due the first day of school.**

**Find the value of the expression. Remember order of operations**

1. $7^2 + 3^2$

2. $8^2 + 6^2$

3. $130 - (7 + 4)^2$

4. $5 + \frac{2}{3}(7 + 8)$

5. $\frac{(5+4)^2}{3}$

6. $130 - 7 + 4^2$

**Round the decimal to the indicated place value.**

7. 9.5367, tenth

8. 3.0961, hundredth

**Write the fraction in simplest form**.

9. $\frac{24}{40}$

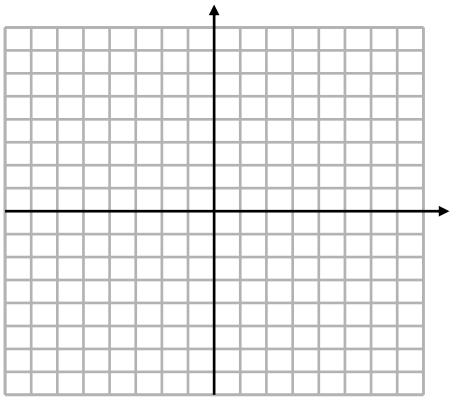
10. $\frac{6}{33}$

11. $\frac{36}{63}$

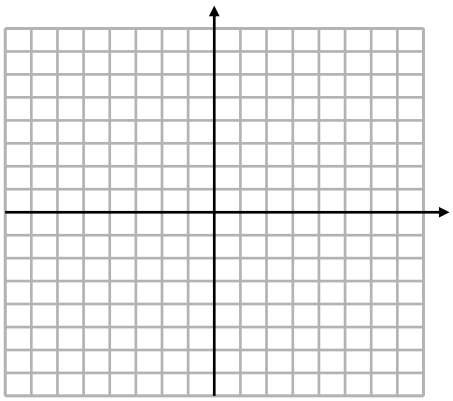
12. $\frac{36}{6}$

**Graph each of the following equation on graphs provided.**

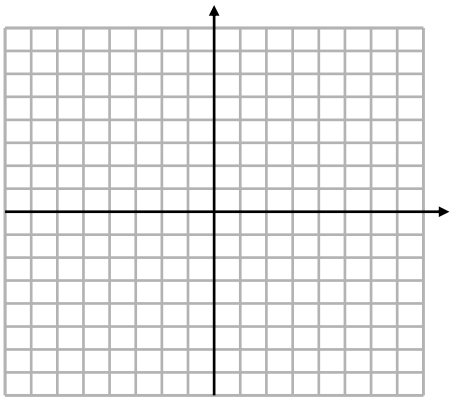
13. $y = x - 1$



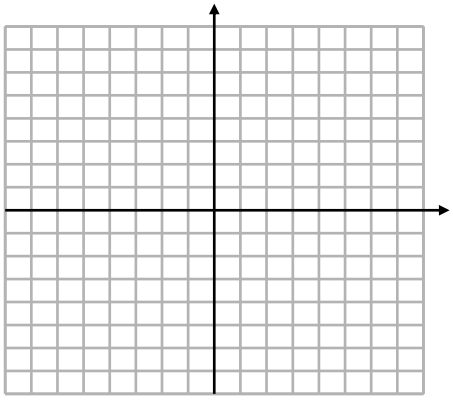
14. $y = 3$



15. $y = \frac{2}{3}x - 4$



16. $x = -4$



**Solve each equation.**

17. $7c + 5 = 40$

18. $7x + 3 + 3x + 17 = 180$

19. $\frac{x}{5} + 7 = 15$

**Solve each proportion**

20. $\frac{4}{5} = \frac{a}{35}$

21. $\frac{x}{14} = \frac{12}{24}$

22. $\frac{15}{m} = \frac{3}{4}$

**Simplify the following expressions involving square roots**

23. $\sqrt{64} + \sqrt{36}$

24. $\sqrt{\frac{36}{100}}$

25. $\sqrt{25} \cdot \sqrt{9}$

**Find the value of the expressions involving fractions. Simplify all answers**

26. $\frac{5}{9}+\frac{2}{9}$ 27. $\frac{8}{9}-\frac{2}{9}$ 28. $\frac{1}{2}\cdot\frac{4}{5}$ 29. $\frac{3}{4}\div\frac{10}{3}$

**Use the table to write each ratio in simplest form.**

| Color | Cars |
|---|---|
| Gray | 15 |
| White | 9 |
| Blue | 6 |

30. Gray cars to white cars

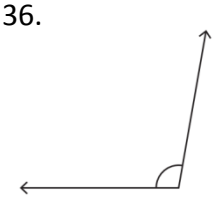
31. Blue cars to total cars

**Based on the measurement, classify the angle as acute, right, obtuse or straight.**

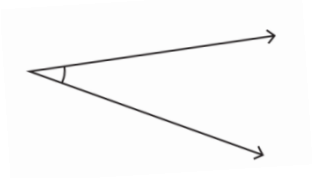
32. $44°$ 33. $180°$ 34. $90°$ 35. $165°$

**Estimate the measures of the following angles. Also, classify them as acute, right, obtuse, or straight**

36.



37.



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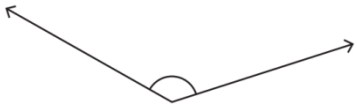
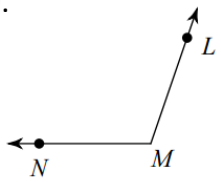
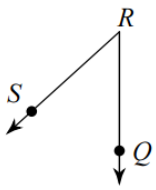


**Name the angle three different ways (i.e. $\angle ABC$, $\angle B$)**

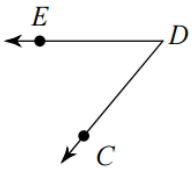
39.



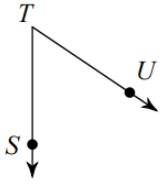

40.




41.

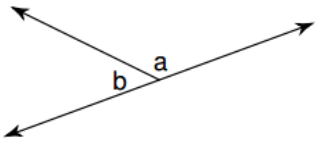



42.



**Classify the angles a and b as vertical, adjacent, complementary, or a linear pair**

43.

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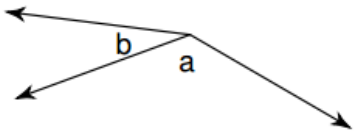


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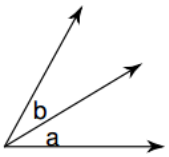
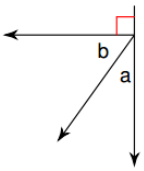
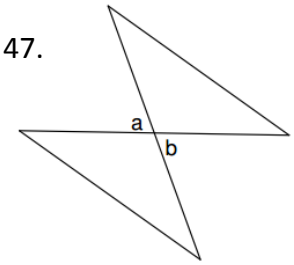


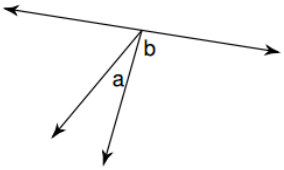

46.



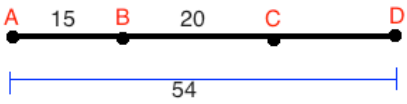

47.



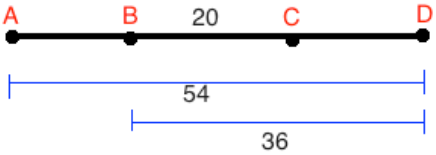

48.




49. Find the length of $\overline{CD}$

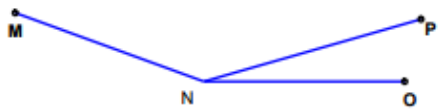



50. Find the length of $\overline{CD}$




**Fill in the missing blank**

51.

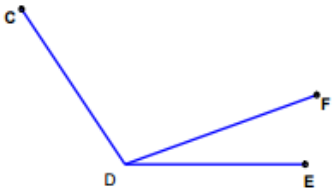



∠ MNP = 144°

∠ PNO = _____

∠ MNO = 160°

52.

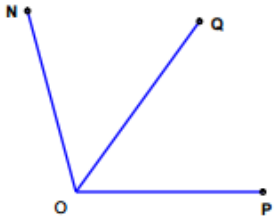



∠ CDF = _____

∠ FDE = 19°

∠ CDE = 125°

53.



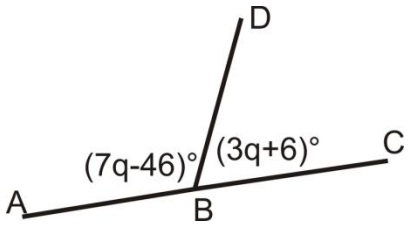

∠ NOQ = 51°

∠ QOP = 54°

∠ NOP = _____

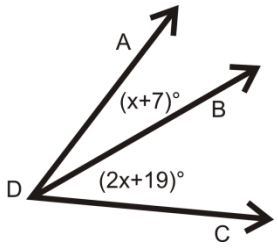
54. Given that q = 22, find the following:

$m\angle ABD =$ _____ $m\angle CBD =$ _____



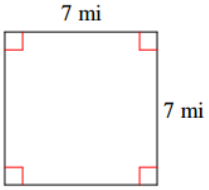

55. Given that x = 15, find the following

$m\angle ADB =$ _____ $m\angle BDC =$ _____




**Find the perimeter and area of each figure. (Include units)**

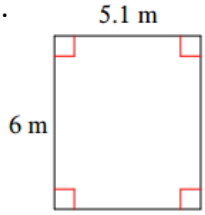
56.




Perimeter = _____

Area = _____

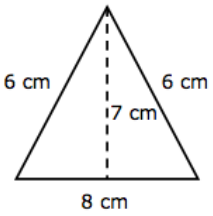
57.




Perimeter = _____

Area = _____

58.



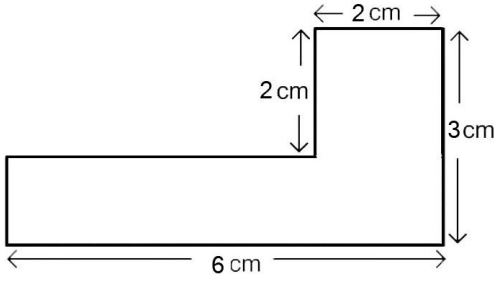

Perimeter = _____

Area = _____

59.

Perimeter = _____

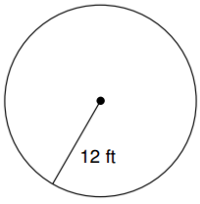
Area = _____




**Find the area and circumference of the following circles. Please round answers to the nearest tenth and include units. The formulas are as follows where r is the radius:**

$Area = \pi r^2$ $Circumference = 2\pi r$

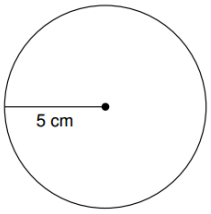
60.




Circumference =_____

Area = _____

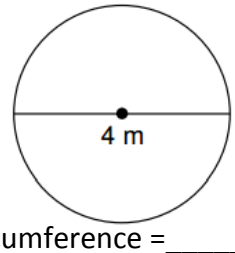
61.




Circumference = _____

Area = _____

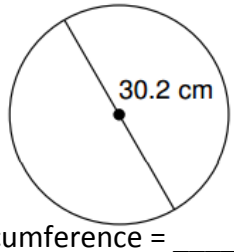
62.




Circumference =_____

Area = _____

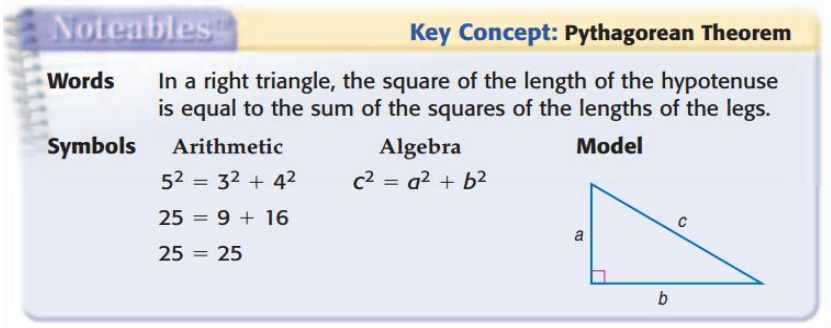
63.



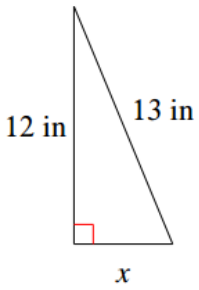

Circumference = _____

Area = _____

**Use the Pythagorean theorem ($c^2 = a^2 + b^2$) to find the missing side length.**




64.




65.