

# Coordinate Algebra Big 20 (#4)

Circle your final answer.

Monday (9/3/18)



Tuesday (9/4/18)

6. Write an expression to represent the following:

**$q$  cubed minus the product of 2 and  $n$  plus 3**

7. Convert 1852.4 km to mi.

8. Write an expression to represent the following:

Ian ran  $f$  fewer laps than Matt who ran 17 laps. Write an expression for the number of laps that Ian ran.

9. Solve for  $x$ :

$$8x+2=72+x$$

10. Define a variable and write an expression to model the following situation:

**A stock loses half its value every week. If the stock was worth \$125 starting out, what is it worth after  $x$  weeks at this rate of decline?**

**Wednesday (9/5/18)**

**11.** Which of the equations below has *no solution*?

- A)  $3x + 2 = 7$
- B)  $4x = 4$
- C)  $x + 9 = x + 4$
- D)  $x = -2$

**12.** Convert 70.0 mi./h to m/s .

**13.** Define a variable and write an expression to model the following situation:

**Sarah invests \$400 in a savings account. She earn 8% interest per year.**

**14.** Define a variable and write an expression to model the following situation:

**Fontain earn \$10 per hour working as a Valet. He sometimes also earns tips. He worked yesterday for x hours and got a total of \$25 in tips.**

**15.** Write an expression to represent the following:

***Sum of twice k and 8***

**Thursday (9/6/18)**

**16.** There are m termites in a colony. They reproduce at rate r each day. Their population is described using the following expression:  $m(1 + r)^d$ . Does a decrease in m change the total population?

**17.** A mouse population is 25,000 and is decreasing in size at a rate of 20% per year. Write an expression to represent the mouse population after x years.

Expression: \_\_\_\_\_

How many terms does this expression have? \_\_\_\_\_

What are the factors? \_\_\_\_\_

**18.** Bryant works at a barber shop. He earns \$10 per haircut. Every day he has to pay \$15 to the store owner to rent the chair. Write an expression to represent his profit per day.

Expression: \_\_\_\_\_

How many terms does this expression have? \_\_\_\_\_

What are the factors? \_\_\_\_\_

**19.** Write an expression to represent the following wording. Then, identify the terms, variables, coefficients, factors, and constants.

***Subtract three-fifths from 5 times k***

**20.** Solve the equation:

$$8(b + 1) + 4 = 3(2b - 8) - 16$$