

Coordinate Algebra Big 20 (#7)

Circle your final answer.

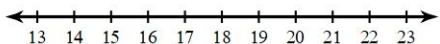
Monday (9/24/18)

1. Jim bought d donuts at \$0.89 each. Write an expression for the total cost of donuts.
2. Write an expression for the verbal phrase:
The quotient of twelve and the product of three times x
3. Solve each equation/inequality:

$$-84 = -5n - 4$$

$$2 = \frac{p - 8}{-2}$$

$$142 > 9 + 7b$$



4. $500 \text{ km/day} = \underline{\hspace{2cm}} \text{ m/s}$

5. Solve for the variable:

$$8 - 2(t + 1) = -3t + 1$$

Tuesday (9/25/18)

6. Tim earns \$150/week plus \$15.50 for each desk he assembles. Write an inequality to represent how many desks he needs to assemble to make \$400 in one week.
7. Jon used a gift card to pay for an \$18 shirt. The remaining balance on the card is \$28. Write and solve an equation that represents this.
8. If $x=4$, $y=3$, $z = -5$, then evaluate:

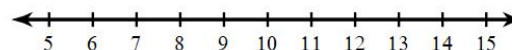
$$xy + z$$

$$x^y$$

$$z - z$$

9. Solve and graph:

$$40 \leq 10(-7 + n)$$



10. Define a variables, write an equation, and solve for the following situation:

Kim and Cyndi are starting a business tutoring students in math. They rent an office for \$400 per month and charge \$40 per hour per student. They want to make \$800 per month. How many hours do they need to tutor?

Wednesday (9/26/18)

11. If $5x = -35$, then find the value of $-28 + 4x$.

12.

Solve each equation.

$$9 = \frac{4 + x}{2}$$

Solve each equation.

$$-5 + 7x = 44$$

13. Using a pedometer, you walk 3000 steps in 20 minutes, so your speed is 150 steps/min. Each of your steps is 0.7 m long. What is your speed?

150 steps/min = _____ m/s = _____ km/h

14. Glenna wants to rent a car for a trip to Key West for one week. She calls two car rental companies to get prices. Mr. Kotter's Rentals rents a Cadillac Escalade for \$99 for one week plus \$0.11 per mile over 100 miles. Barbarino's Rentals has the same vehicle for \$75 per week and \$0.15 per mile over 150 miles. If it is 432 miles to Key West, which company has the better deal?

15.

Daniel had \$25 to spend at the fair. If the admission to the fair is \$4 and the rides cost \$1.50 each, what is the greatest number of rides Daniel can go on?

Write an inequality that represents Daniel's situation.

How many rides can Daniel go on? Justify your answer.

Thursday (9/27/18)

16. A population of 6000 bacteria is growing at a rate of 16% each day. Write an expression that expresses the number of bacteria at time x .

17. Does the following equations show growth or decay?

$$y = 10 (1.07)^x \quad \underline{\hspace{2cm}}$$

$$y = .5 (1.1)^x \quad \underline{\hspace{2cm}}$$

$$y = 1000(.3)^x \quad \underline{\hspace{2cm}}$$

18.

Kevin has \$25. MP3 downloads cost \$0.75 each. How many songs can he download and still have \$13 left to spend?

Write an inequality that represents Kevin's situation.

How many downloads can Kevin purchase? Justify your answer.

Graph the solution on a number line.

19. You bought a magazine for \$5 and four erasers. You spent a total of \$25. How much did each eraser cost? Define a variable, write the equation, and solve.

20. Imani spent half of her weekly allowance playing mini-golf. To earn more money her parents let her wash the car for \$4. What is her weekly allowance if she ended with \$12? Define a variable, write the equation, and solve.