6th Grade (Procedural) Unit 3, Quiz #2 Name Key

Answer completely and show all work

1. Define a variable, write the equation, and solve for each verbal model.
   a. Scott is 24 years older than Daniel. Scott is 38 years old. How old is Daniel?

   $S = D + 24$ $S = 38$ $38 = D + 24$ $D = 14$ years old

   b. Bruce bought a piece of wood 12 *ft* long. He cut it into two pieces. If one piece is $4\frac{1}{3}$ *ft*, how long is the other piece?

   $4\frac{1}{3} + x = 12$

   $x = 7\frac{2}{3}$ ft

   c. Clayton Kershaw struck out 240 batters in 25 games. On average, how many batters did he strike out per game?

   $\frac{240}{25} = 9.6$ strike outs/game

   d. About two-fifths of students in Irvine pass the OLSAT test. If there were 300 students that passed last year, how many took the test?

   $\frac{2}{5}x = 300$ $x = 750$ students

2. Solve each one-step equation.
   a. $5 + x = 29$ $x = 24$

   b. $y - 5 = 7$ $y = 12$

   c. $47 - x = 17$ $30 = x$

   d. $35y = 280$ $y = 8$

   e. $0.5x = 29.5$ $x = 59$

   f. $\frac{3}{4} + y = \frac{9}{10}$ $y = \frac{18}{20} - \frac{15}{20} = \frac{3}{20}$

   g. $\frac{8}{27}x = \frac{16}{9}$ $x = \frac{216}{8} \cdot \frac{3}{8} = 6$

   d. $\frac{y}{5} = 27$ $y = 135$

3. Write the inequality.
   a. The elevator capacity cannot exceed 1500 pounds. $x \leq 1500$

   b. The minimum score on the Science test is 35 points. $x \geq 35$

   c. You have to complete 150 laps to get the contribution. You have completed 68 laps. $x + 68 \geq 150$

   d. It takes five and a half hours to drive to Mammouth. We have driven for 3 hours.

   $x + 3 \geq 5\frac{1}{2}$

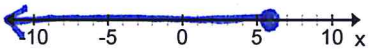
   $x \geq 2\frac{1}{2}$

4. Solve the inequality.
   a. $3x \leq 123$ $x \leq 41$

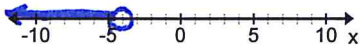
   b. $\frac{3}{5} + y > \frac{7}{10}$ $y > \frac{1}{10}$

5. Solve and graph the following inequalities.

a. $x \leq 6$

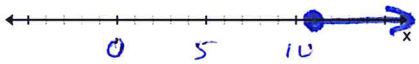


b. $-32 > 8x$ $x < -4$



c. $x + \frac{7}{3} \geq \frac{4}{3}$ $x \geq -\frac{3}{3} \rightarrow x \geq -1$

d. $x - 6.25 \geq 4.75$ $x \geq 11$



6th Grade(Conceptual) Unit 3, Quiz #2 Name Key

Answer completely and show all of your work.

1. Dennis just got a new PlayStation 4 and is excited about getting some new games to go with it. The cost (tax included) of some of his favorites are listed to the right.

Game	Price ($)
Call of Duty	$59.95
Little Big Planet 3	$45.75
WWE 2K15	$55.25
NBA 2K15	$49.50
Minecraft	$19.55

   a. The first games he wants to get are Little Big Planet 3, NBA 2K15, and Minecraft. He brought $100 with him. Will this be enough? Write and solve an equation to determine how much money he will need to make his purchase.

45.75
49.50
19.55
124.80

Not enough.

$45.75 + 49.50 + 19.55 = 100 + x$

$124.80 = 100 + x$

$\$24.80 = x$

   b. Dennis would also like his friends Kylie and Miles to have Minecraft so that he can play at their houses as well. With the $100, he might choose to buy these three games instead. Write and solve an equation to determine the price of the three Minecraft games and show the amount of change Dennis might get back.

$3(19.55)$

19.55 × 3

$\$58.65$

$3(19.55) + x = 100$

$58.65 + x = 100$

$x = \$41.35$

   c. If Dennis has $150 and already has Minecraft, can he still buy three more games? Show the math you used to determine your answer.

3 Next least expensive are LBP3 @ 45.75, WWE @ 55.25, NBA @ 49.50

150.50

$150.50 > 150

so NO

2. Greg, Marcia, Jan, Peter, Bobby, and Cindy went to the candy store. Their parents, Mike and Carol left enough money at the store so that each child would have $3.25 to spend. Write and solve an equations to show the total amount of money Mike and Carol left at the candy store.

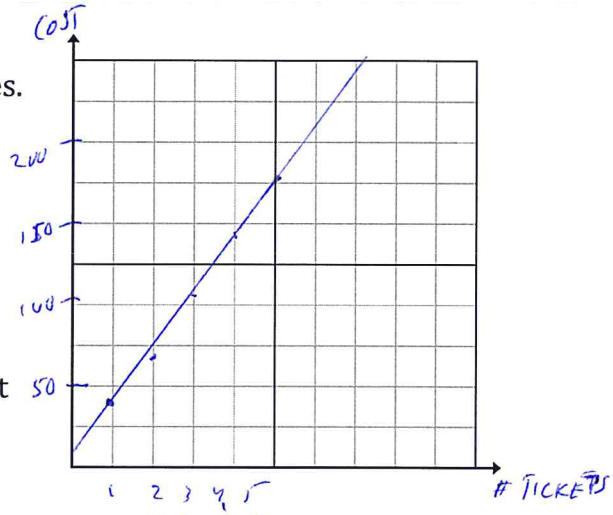
$\frac{x}{6} = 3.25$

$x = 18 + 1.50 = \$19.50$

3. Adam wants to buy several tickets to the next Maroon 5 concert. Each ticket will cost $35.75.
   a. Create a table of values to show the cost of buying up to 5 tickets.

# Tix	cost
1	35.75
2	71.50
3	107.25
4	143.00
5	178.75

b. Plot the data on a graph and label your axes.



c. Write the equation that represents the cost to Adam of buying the tickets and identify the independent and dependent variables.

Cost = 35.75t or x = # tickets
y = cost

$y = 35.75x$

d. If Adam wanted to buy eight tickets, what would be the cost?

$y = 35.75(8) = \$286.00$

e. If he only wants to spend a maximum of $300.00 on the tickets, how many can he buy? Explain which representations you used in determining your answer.

8 tickets because one more than found in (d) would exceed $300