

Directions: Do ALL (A) Questions. Check Your Answers to (A) Questions. If ALL (A) Questions are correct, skip (B) Questions and move onto next "I can" statement. If you get any (A) Questions wrong, MAKE CORRECTIONS and do ALL (B) Questions.

1. "I Can Solve Equations by using Inverse Operations to Isolate the Variable on one side of the Equal Sign."

A1.  $x + 28 = 53$   
 $\begin{array}{r} x + 28 = 53 \\ -28 \quad -28 \\ \hline x = 25 \end{array}$

B1.  $4 = \frac{x}{12}$   
 $\begin{array}{r} 4 = \frac{x}{12} \\ \cdot 12 \quad \cdot 12 \\ \hline 48 = x \end{array}$

A2.  $4x + 5x - 2x = 4(7)$   
 $\begin{array}{r} 4x + 5x - 2x = 4(7) \\ 7x = 28 \\ \div 7 \quad \div 7 \\ \hline x = 4 \end{array}$

B2.  $18 = x + 9 - 15$   
 $\begin{array}{r} 18 = x + 9 - 15 \\ +15 \quad +15 \\ \hline 33 = x + 9 \\ -9 \quad -9 \\ \hline 24 = x \end{array}$

A3.  $42 - 9 = 4 + x - 20$   
 $\begin{array}{r} 42 - 9 = 4 + x - 20 \\ 33 = 4 + x - 20 \\ -4 \quad -4 \\ \hline 29 = x - 20 \\ +20 \quad +20 \\ \hline 49 = x \end{array}$

B3.  $25 = 1x + 1x + 3x$   
 $\begin{array}{r} 25 = 1x + 1x + 3x \\ 25 = 5x \\ \div 5 \quad \div 5 \\ \hline 5 = x \end{array}$

2. "I Understand that Solving an Equation means to find the Value that makes it true."

A1. Does  $x = 3$ ?  
 $4x + 6 = 9x - 9$   
 $\begin{array}{r} 4 \cdot 3 + 6 \stackrel{?}{=} 9 \cdot 3 - 9 \\ 12 + 6 \stackrel{?}{=} 27 - 9 \\ 18 \neq 18 \checkmark \end{array}$  YES!

B1. Does  $x = 7$ ?  
 $2x + 13 = 40$   
 $\begin{array}{r} 2 \cdot 7 + 13 \stackrel{?}{=} 40 \\ 14 + 13 \stackrel{?}{=} 40 \\ 27 \neq 40 \end{array}$  NO!

3. "I Can Write and Solve Equations to Represent Real-World Situations."

A1. <sup>132</sup> Ruben and <sup>q</sup> Tariq have 245 downloaded minutes of music. If Ruben has 132 minutes, and Tariq has  $q$  minutes, write and solve an equation to represent how many minutes Tariq has.

$$\begin{array}{r} 132 + q = 245 \\ -132 \quad -132 \\ \hline q = 113 \text{ minutes} \end{array}$$

A2. Sarah and her friends went to jewelry store to buy matching bracelets. If they bought a total of 7 bracelets that cost  $d$  dollars each and paid a total of \$84, write and solve an equation to represent how much one of the bracelets cost.

$$\begin{array}{r} 7 \cdot d = 84 \\ \div 7 \quad \div 7 \\ \hline d = \$12 \end{array}$$

B1. Bethany bought  $c$  pieces of Halloween candy that she <sup>c</sup> gave amongst to her 5 friends. If she gave each friend 3 pieces, write and solve an equation to find how many pieces of candy Bethany started with.

$$\begin{array}{r} \frac{c}{5} = 3 \\ \cdot 5 \quad \cdot 5 \\ \hline c = 15 \text{ pieces of candy} \end{array}$$

B2. <sup>58</sup> Georgia's height is 4 inches less than Sienna's height. If Georgia is 58 inches tall and Sienna is  $s$  inches tall, write and solve an equation to find Sienna's height.

$$\begin{array}{r} 58 = s - 4 \\ +4 \quad +4 \\ \hline 62 = s \\ \text{inches tall} \end{array}$$

4. "I Can Complete a Table that Relates the Independent Variable to the Dependent Variable and Write an Algebraic Equation Rule for the Table."

A1.

Input (x)	Output (y)
13	8
17	12
19	14
26	21

$$x - 5 = y$$

A2.

Input (x)	Output (y)
4	20
7	35
8	40
10	50

$$x + 5 = y$$

A3.

Input (x)	Output (y)
27	9
21	7
15	5
9	3

$$x \div 3 = y$$

B1.

Input (x)	Output (y)
0	0
1	9
4	36
9	81

$$x \cdot 9 = y$$

B2.

Input (x)	Output (y)
24	30
31	37
35	41
40	46

$$x + 6 = y$$

B3.

Input (x)	Output (y)
18	9
14	7
10	5
6	3

$$x \div 2 = y$$

5. "I Can Explain the Difference between and Identify the Independent and Dependent Variable in a Real-World Situation."

Circle the **Independent Variable** and Underline the Dependent Variable

A1. The number of apples in the basket and the weight of the basket

A2. You spend c dollars on h number of hats

B1. The amount of money you make and the amount of hours you spend at work.

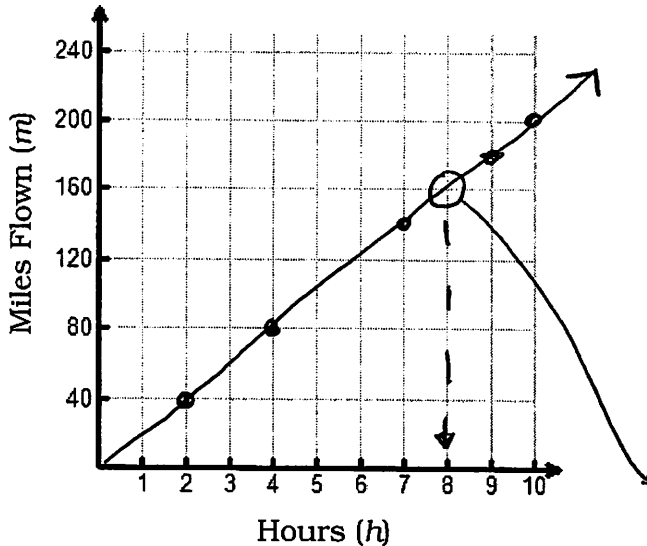
B2. How old your car is and the value of your car.

6. "I Can Explain the Relationship between Independent and Dependent Variables using Tables, Graphs, and Equations."

Fill out the table, graph find the function equation and answer the questions.

A1. An eagle can fly 20 miles in one hour.

Flying Eagle					
Hours (h)	2	4	7	9	10
Miles Flown (m)	40	80	140	180	200



Write an **equation** that relates the hours (h) and miles flown (m).

$$m = 20 \cdot h$$

How many miles will the bird fly in 8 hours? Show your work/thought process.

160 miles  
flown

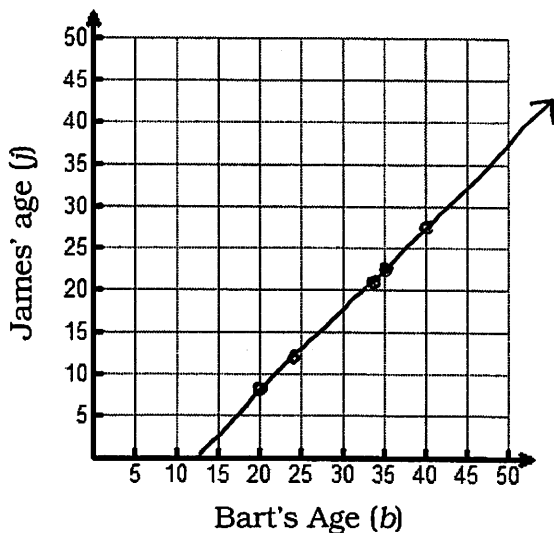
$$m = 20 \cdot 8$$

$$m = 160$$

miles  
flown

B1. Bart is 12 years older than James. As Bart gets older, the table shows the relationship between their ages

Bart and James' Ages					
Bart (b)	20	24	33	35	40
James (j)	8	12	21	23	28



Write an **equation** that relates the Bart's age (b) and James age (j).

$$b - 12 = j$$

How old will James be when Bart is 55? Show your work/thought process.

$$55 - 12 = j$$

$$43 = j$$

43 years  
old

7. "I Can Write an Equation from a Real-World Situation that Relates Independent and Dependent Variables."

A1. Stu is going to the fair. To get in he must pay  $\$25$  for the ticket and then  $\$3$  for every ride he goes on. If  $T$  represents the total money spent at the fair and  $r$  represents the number of rides Stu goes on, write an equation and then complete the function table to represent the money Stu will spend.

Equation:  $25 + 3r = T$

Number of Rides (r)	$25 + 3r$	Total Money (T)
2	$25 + 3 \cdot 2$	31
5	$25 + 3 \cdot 5$	40
12	$25 + 3 \cdot 12$	61

B1. Sally and her friends are going to bowl. It will cost them  $\$2$  per game and a one-time fee of  $\$5$  for the shoes. If they plan to pay together, let  $C$  represent the total cost, let  $g$  represent the number of games played, write an equation and then complete the function table to represent the money Sally and her friends will spend.

Equation:  $2g + 5 = C$

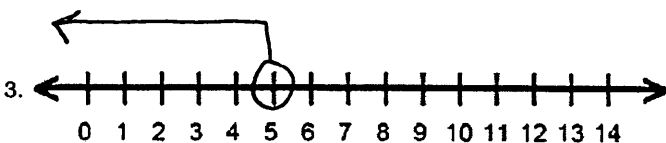
Number of Games (g)	$2g + 5$	Total Cost (C)
3	$2 \cdot 3 + 5$	11
5	$2 \cdot 5 + 5$	15
6	$2 \cdot 6 + 5$	17

8. "I Can Write an Inequality and Graph the Solution Set on a Number Line to Represent a condition in a Real-World Situation."

A1. Everything in the store costs below  $\$5$ .

1. 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14

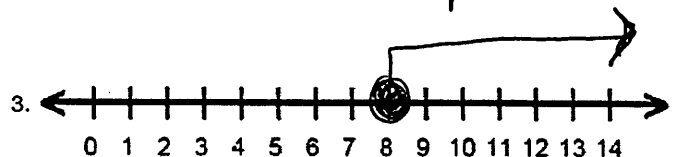
2. Write the Inequality:  $C < 5$



A2. Sally made at least 8 pies for the holidays.

1. 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14

2. Write the Inequality:  $p \geq 8$

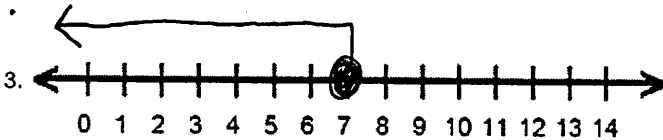


B1.

The park is no more than 7 miles away

1. 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14

2. Write the Inequality:  $m \leq 7$

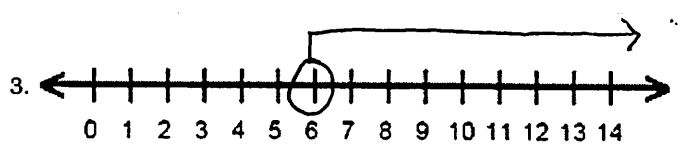


B2.

Jim is taller than 6 feet.

1. 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14

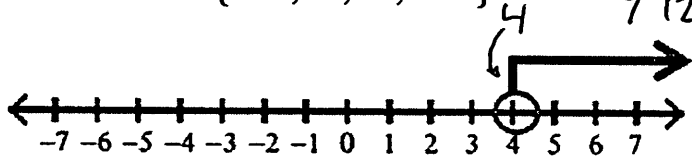
2. Write the Inequality:  $J > 6$



9. "I Understand that Solving an Inequality means to find the Set of Values that make it true."

A1. Is the following part of the solution set for the inequality graphed below?

$\{12, 4, 7, 29\}$



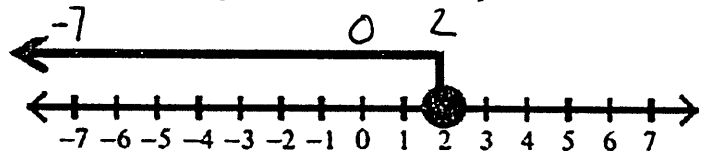
$x > 4$

Circle One: Yes No

Explain: 4 should not be included in the solution set because the graph shows the solutions are greater than 4

B1. Is the following part of the solution set for the inequality graphed below?

$\{-7, 0, -52, 2\}$



$x \leq 2$

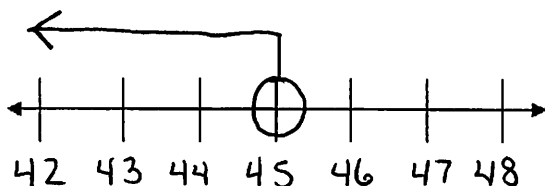
Circle One: Yes No

Explain: All values are included in the solution set because the graph shows the solutions are less than or equal to 2

10. "I Can Solve an Inequality for a Variable and Graph the Solution Set on a Number Line."

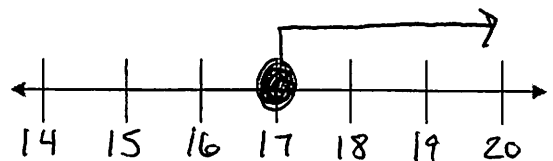
A1.  $\frac{c}{9} < 5$

$$\begin{array}{r|l} 9 & \cdot 9 \\ \hline c & < 45 \end{array}$$



A2.  $2 \leq -15 + x$

$$\begin{array}{r|l} +15 & +15 \\ \hline 17 & \leq x \end{array} \quad \text{or} \quad x \geq 17$$



A3. Laverne is making bags of party favors for each of the 6 friends attending her party. She does not want to spend more than \$42. If  $p$  represents the cost of a party favor, write, solve, and graph an inequality to represent the possible cost of each party favor.

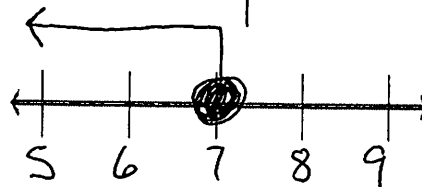
Inequality  $6 \cdot p \leq 42$

$$\begin{array}{r|l} \div 6 & \div 6 \\ \hline & p \leq 7 \end{array}$$

Part B: Solve the inequality:

Party favors  
cost no more  
than \$7

Part C: Graph the Solution Set:



Part D: Which of the following could be prices for each party favor? (Circle all that apply)

\$6.99

\$7

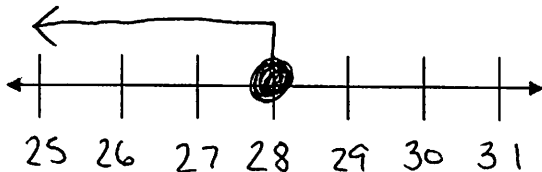
\$7.01

\$5.45

\$12.99

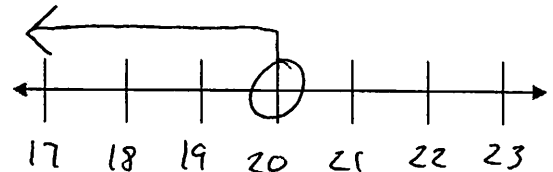
B1.  $7 \geq \frac{x}{4}$

$$\begin{array}{r|l} \cdot 4 & \cdot 4 \\ \hline 28 \geq x & \text{or } x \leq 28 \end{array}$$



B2.  $3x < 60$

$$\begin{array}{r|l} \div 3 & \div 3 \\ \hline x < 20 \end{array}$$



B3. Bill has 45 baseball cards and John has  $b$  baseball cards. If together they have no more than 192 cards, write, solve, and graph an inequality to represent John's cards.

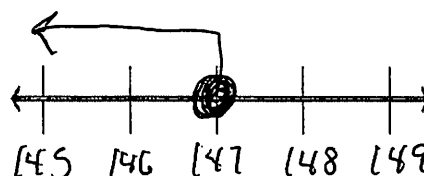
Inequality  $45 + b \leq 192$

$$\begin{array}{r|l} -45 & -45 \\ \hline & b \leq 147 \end{array}$$

Part B: Solve the inequality:

John has  
no more than  
147 cards

Part C: Graph the Solution Set:



Part D: Which of the following could represent John's baseball cards? (Circle all that apply)

100

148

147

200

150