

Integrated Math I – Section 1.6-1.9 Review for Chapter Test

Good Luck!

Solve:

1.  $\frac{15}{9} = \frac{x}{3}$

$3(15) = 9x$   
 $45 = 9x$   
 $\frac{45}{9} = \frac{9x}{9}$   $(5 = x)$

2.  $\frac{4}{x} = \frac{2}{x-7}$

$4(x-7) = 2x$   
 $4x - 28 = 2x$   
 $\frac{-4x}{-4x} \quad \frac{-4x}{-4x}$   
 $\frac{-28}{-2} = \frac{-2x}{-2}$   $(14 = x)$

1. 5

2. 14

3. School Guidelines require that there must be at least 2 chaperones for every 30 students going on a school trip. How many chaperones must there be for 130 students?

- a.) 3 Chaperones    b.) 8 Chaperones    **c.) 9 Chaperones**    d.) 2 Chaperones

$\frac{2}{30} = \frac{x}{130}$   
 $2(130) = 30x$   
 $260 = 30x$   
 $8.6 = x$   
 Need 9 people

3. C

4.  $\frac{16}{-4h} = \frac{8}{6}$

$6(16) = -4h(8)$   
 $\frac{96}{-32} = \frac{-32h}{-32}$   $(-3 = h)$

4. -3

Which is a solution of the inequality?

5.  $7(m-12) > 21$     a.) -15    b.) 16    c.) 15    d.) 14

$7m - 84 > 21$   
 $7m > 105$   
 $m > 15$

5. B

Solve:

6.  $3x - 6 \geq 27$

$\frac{3x}{3} \geq \frac{33}{3}$   
 $x \geq 11$

7.  $-8x - 7 \leq 41$

$\frac{-8x}{-8} \leq \frac{48}{-8}$  ← divide by negative flip inequality!  
 $x \geq -6$

6.  $x \geq 11$

7.  $x \geq -6$

Multiple Choice:

8.  $10 + 6x < 4(x-9)$     a.)  $x < -4.6$     b.)  $x < -2.6$     c.)  $x < -13$     **d.)  $x < -23$**

$10 + 6x < 4x - 36$   
 $\frac{-10}{-10} \quad \frac{-10}{-10}$   
 $6x < 4x - 46$   
 $\frac{-4x}{-4x} \quad \frac{-4x}{-4x}$   
 $2x < -46$   
 $\frac{2x}{2} < \frac{-46}{2}$   
 $x < -23$

8. D

Solve:

9.  $-12 < x + 6 < -3$

$$\begin{array}{ccc} -6 & -6 & -6 \\ \hline -18 & < x < & -9 \end{array}$$

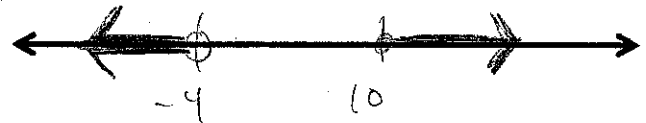
9.  $-18 < x < -9$

Solve and graph:

10.  $x + 7 < 3$  or  $-9x \leq -90$

$$\begin{array}{ccc} -7 & -7 & -9 & -9 \\ \hline x & < & -4 & \text{ or } & x & \geq & 10 \end{array}$$

10.  $x < -4$  or  $x \geq 10$



11.  $-6 < 3x - 9 \leq 15$

$$\begin{array}{ccc} +9 & +9 & +9 \\ \hline 3 & < 3x & \leq 24 \\ \hline 3 & 3 & 3 \\ \hline 1 & < x & \leq 8 \end{array}$$

11.  $1 < x \leq 8$



Solve:

12.  $|x - 6| = 10$

$$\begin{array}{cc} x - 6 = 10 & x - 6 = -10 \\ +6 & +6 \\ \hline x = 16 & x = -4 \end{array}$$

13.  $|4x + 8| = 12$

$$\begin{array}{c} 4x + 8 = 12 \\ -8 & -8 \\ \hline 4x = 4 \\ \hline x = 1 \end{array}$$

12.  $x = 16, -4$

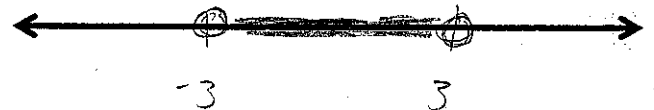
13.  $x = 1, -5$

Solve and graph:

14.  $|7x| < 21$  and

$$\begin{array}{cc} 7x < 21 & 7x > -21 \\ \hline 7 & 7 \\ \hline x < 3 & \text{ and } & x > -3 \end{array}$$

14.  $-3 < x < 3$



15.  $|5x - 10| \geq 35$  or

$$\begin{array}{cc} 5x - 10 \geq 35 & 5x - 10 \leq -35 \\ +10 & +10 \\ \hline 5x \geq 45 & 5x \leq -25 \\ \hline x \geq 9 & \text{ or } & x \leq -5 \end{array}$$

15.  $x \geq 9$  or  $x \leq -5$

