DCA (A.CED.A) Review #1

For problems 1 and 2, solve for x. Show all required work.

1) $7x - 12 = -3x + 48$

$+3x \quad +3x$

$10x - 12 = 48$

$+12 \quad +12$

$\frac{10x}{10} = \frac{60}{10}$

Answer: $x = 6$

2) What is the solution to the inequality $4(6 - 2x) > 32$

$4(6-2x) > 32$

$24 - 8x > 32$

$-24 \quad -24$

$-8x > 8$

$\frac{-8x}{-8} > \frac{8}{-8}$

$x < -1$

a. $x < -1$

b. $x < 1$

c. $x > -1$

d. $x > 1$

Answer: a

3) What is the x-intercept for the equation $-8x - 12y = 24$? Show your work.

$-8x - 12(0) = 24$

$\frac{-8x}{-8} = \frac{24}{-8}$

$x = -3$

Answer: $(-3, 0)$

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4) Naala has $1,200 in her savings account and is withdrawing $25 per week. Write an equation that represents this situation, where y is the amount Naala has in her savings account after x weeks.

Answer: $y = 1200 - 25x$ or $y = -25x + 1200$

5) Franklin the Ferret is in his den, which is 20 feet below ground level. He starts up the tunnel toward the surface, and is climbing at a rate of 2 feet per second. Write an equation that represents this situation, where y is Franklin's position relative to ground level after x minutes.

$y = -20 + 2x$ or $y = 2x - 20$

6) Cate and Paulette have invited 50 people to their wedding so far, and plan to invite at most y people. They are sending out 10 wedding invitations per day. Write an inequality that represents this situation, where x is the number of days.

→ so y is the largest value

Answer: $y \geq 50 + 10x$ or $y \geq 10x + 50$

7) Harvey has $1,200 in his savings account and is withdrawing $25 per week. He needs to keep at least y dollars in his account. Write an inequality that represents this situation, where x is the number of weeks.

→ so y is the smallest value

Answer: $y \leq 1200 - 25x$ or $y \leq -25x + 1200$

Exemplary – This problem will take you to Exemplary if you are Meeting on the rest of the test.

8) Solve. Show all required work.

$|-2x + 10| < 22$

$-22 < -2x + 10 < 22$

$-10 \quad -10 \quad -10$

$-32 < -2x < 12$

$\div -2 \quad \div -2 \quad \div -2$

$16 > x > -6$