Unit 4: Equalities Day 5

Math 9 Principles

4-4 I can solve equations involving proportions using cross-multiplication.

Solve for x. Show all steps. Circle your answer.

1) $3x - 7 = 5x + 3$	2) $3(2x - 1) = 2(4x + 1)$
3) $3(3x - 2) + x = -2(3x - 2) + 4$	4) $\frac{3}{5}x = 27$
5) $\frac{8}{3}x = 24$	6) $-\frac{10x}{3} = 20$
7) $\frac{3x}{4} - 2 = 5$	8) $\frac{3}{2}x + 3 = 7$
9) $\frac{3}{5}(4x - 3) = -2$	10) $-\frac{2}{3}(3x + 5) = 7$
11) $-\frac{5x}{2} - 3 = 4$	12) $-2\frac{3}{4}(2x - 1) = -4$
13) $\frac{x}{3} = \frac{8}{9}$	14) $\frac{5}{2} = \frac{x}{3}$
15) $\frac{x+1}{2} = \frac{x-2}{3}$	16) $\frac{x-3}{4} = \frac{x+4}{5}$

17) $4x - \frac{1}{3} = \frac{1}{2}$	18) $-2x + \frac{3}{5} = -\frac{3}{4}$
19) $\frac{3x-1}{2} = \frac{5x-3}{4}$	20) $\frac{-2x+7}{3} = \frac{(3x-4)}{5}$

Write each word problem as an equation and solve showing all steps. Circle your answer.

21) 27 more than half of a number is the same as twice the number. What is the number?	22) If you add three-fifths of a number to the number itself, you get -32. What is the number?
23) If you double a number and then subtract 75, you get one-third the original number. What is the number?	24) The perimeter of a rectangle is 122 yards. The length is l and the width is $l - 15$. Find the dimensions of the rectangle.
25) The side of a square is $5x - 2$. If the perimeter is 112, what is x?	26) A rectangle is three times as long as it is wide. Its perimeter is 168 cm. Find the length and width of the rectangle.