12-19-17

Aim: SWBAT do their best on the quiz.

HW: None

Do Now: Let's correct Packet Pages 10 - 11 & 31 - 34

8. Mr. Edwards purchased 3 bags of potatoes. He bought 36 potatoes in all. Each bag contains the same number of potatoes. Write an equation that represents this situation

Let x = # of potatoes in each bag

Equation: $3x = 36$

Each bag contains the same number of potatoes. Now solve your equation to find the number of potatoes in each bag.

$\frac{3x}{3} = \frac{36}{3}$ Each bag has

$x = 12$ 12 potatoes.

You Try!

9. Phoebe is 3 years less than half her brother's age. Phoebe is 13 years old. Her brother is b years old. Write an equation that could be used to find her brothers age.

Let b = Phoebe's brother's age

Equation: $\frac{1}{2}b - 3 = 13$ OR $\frac{b}{2} - 3 = 13$

10. Nigel went to an ice rink and paid $5 admission plus an additional $2.50 per hour to rent skates. The total cost was $15. Write an equation that represents h, the number of hours for which Nigel rented skates.

Let h = # of hours

Equation: $5 + 2.50h = 15$

Homework - Translating Equations & Solving Two Step Equations

Write an algebraic expression or equation to represent each of the following. Remember to read the words carefully to decide if it is an expression or an equation.

1) The product of seven and y is sixteen. $7y = 16$

2) Four times a number increased by eight let n = the # $4n + 8$

3) Sixteen less than a number, x is 3 more than y. $x - 16 = y + 3$

4) Ten decreased by x is fifteen decreased by n. $10 - x = 15 - n$

5) Fifty is twelve subtracted from x. $50 = x - 12$

6) Twice the sum of x and y is three times z. $2(x + y) = 3z$

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7) Sixteen is the product of eight and y. $16 = 8y$

8) Twice the difference of x and three is nine. $2(x-3) = 9$

9) The quotient of eleven and v is seven minus x. $\frac{11}{v} = 7 - x$

10) Five times the difference of nine and x $5(9-x)$

Define a variable, then write an equation using your variable to represent the situation.

11) Three times a number decreased by five is fifty.

Let n = the # Equation: $3n - 5 = 50$

12) Mark spent $15 at the state fair, the admission fee is $5 and the rides cost $2 each. Write an equation that could be used to find the number of rides Mark went on.

Let x = # of rides Equation: $15 = 5 + 2x$

13) Lou has 36 rocks in his collection. He separated them into equal piles of 12 rocks each. Write an equation that could be used to find out how many piles Lou has.

Let x = # of piles Equation: $36 = 12x$

Now solve your equation to find out how many piles of rocks Lou made.

Directions: Solve each equation algebraically. Check #1 and #5.

1) $2y - 7 = -29$

2) $3 - 4y = 19$

3) $\frac{x}{-2} + 4 = -10$

4) $p - 7p = 78$

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AIM: SWBAT solve multi-step equations involving fractions.

Do Now: Take out your homework

Solve each equation algebraically.

1) $\frac{9}{8}\cdot\frac{8}{9}x = 2\cdot\frac{9}{8}$

$x = \frac{9}{4}$

2) $\frac{4}{7}x + 5 = -19$

$-5 \quad -5$

$\frac{7}{4}\cdot\frac{4}{7}x = -24\cdot\frac{7}{4}$

$x = -42$

3) $\frac{5}{9}x + 7 = \frac{1}{9}x - 5$

$-\frac{1}{9}x \quad -\frac{1}{9}x$

$\frac{4}{9}x + 7 = -5$

$-7 \quad -7$

$\frac{9}{4}\cdot\frac{4}{9}x = -12\cdot\frac{9}{4}$

$x = -27$

4) $\frac{7}{3}x + 6 = \frac{5}{3}x$

$-\frac{7}{3}x \quad -\frac{7}{3}x$

$\frac{3}{-2}\cdot 6 = \frac{-2}{3}x\cdot\frac{3}{-2}$

$-9 = x$

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5) $30\left(\frac{2}{3}x - \frac{3}{5}\right) = 30\left(\frac{7}{10}\right)$

$20x - 18 = 21$

$+18 \quad +18$

$\frac{20x}{20} = \frac{39}{20}$

$x = \frac{39}{20}$

6) $\frac{1}{6}(12x + 24) = \frac{1}{3}(15x + 21)$

$2x + 4 = 5x + 7$

$-2x \quad -2x$

$4 = 3x + 7$

$-7 \quad -7$

$\frac{-3}{3} = \frac{3x}{3}$

$-1 = x$

7) $2x + \frac{1}{8} = \frac{1}{4}(4x - 1)$

$8\left(2x + \frac{1}{8}\right) = 8\left(x - \frac{1}{4}\right)$

$16x + 1 = 8x - 2$

$-8x \quad -8x$

$8x + 1 = -2$

$-1 \quad -1$

$\frac{8x}{8} = \frac{-3}{8}$

$x = \frac{-3}{8}$

8) $12\left(\frac{1}{4} - \frac{2}{3}x\right) = 12\left(\frac{3}{4} - \frac{1}{3}x\right)$

$3 - 8x = 9 - 4x$

$+8x \quad +8x$

$3 = 9 + 4x$

$-9 \quad -9$

$\frac{-6}{4} = \frac{4x}{4}$

$-\frac{3}{2} = x$

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Homework – Solving multi-step equations with Fractions

Directions: Solve each equation algebraically.
REMEMBER: We need the variable terms on one side and constant terms on the other side.

1) $-\frac{3}{5} + x = \frac{1}{20}$

$+\frac{3}{5} \quad +\frac{3}{5}$

$x = \frac{13}{20}$

2) $\frac{1}{2}(4x + 12) = x - 2$

$2x + 6 = x - 2$

$-x \quad -x$

$x + 6 = -2$

$-6 \quad -6$

$x = -8$

3) $\frac{2}{5}(10x + 35) = \frac{1}{8}(16x + 80)$

$4x + 14 = 2x + 10$

$-2x \quad -2x$

$2x + 14 = 10$

$-14 \quad -14$

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

$x = -2$

4) $\frac{5}{7}x - 12 = -47$

$+12 \quad +12$

$\frac{7}{5} \cdot \frac{5}{7}x = -35 \cdot \frac{7}{5}$

$x = -49$

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5) $15\left(\frac{1}{5}x - 1\frac{1}{3}\right) = 15\left(-2\frac{2}{3} - \frac{3}{5}x\right)$

$3x - 20 = -40 - 9x$

$+9x \quad +9x$

$12x - 20 = -40$

$+20 \quad +20$

$\frac{12x}{12} = \frac{-20}{12}$

$x = -\frac{5}{3}$

6) $\frac{3}{4}x - 7 = \frac{1}{2}x + 3$

$-\frac{1}{2}x \quad -\frac{1}{2}x$

$\frac{1}{4}x - 7 = 3$

$+7 \quad +7$

$\frac{4}{1} \cdot \frac{1}{4}x = 10 \cdot \frac{4}{1}$

$x = 40$

7) $\frac{2}{3}x + \frac{1}{4}x = 22$

$\frac{12}{11} \cdot \frac{11}{12}x = 22 \cdot \frac{12}{11}$

$x = 24$

8) $12\left(\frac{1}{3}x + 2\right) = 12\left(-x + \frac{13}{4}\right)$

$4x + 24 = -12x + 39$

$+12x \quad +12x$

$16x + 24 = 39$

$-24 \quad -24$

$\frac{16x}{16} = \frac{15}{16}$

$x = \frac{15}{16}$

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