

3(8) = 24
 15/3 = 5
 15/5 = 3
 15/15 = 1
 1/2 = 0.5
 1/3 = 0.333...

I. Simplify each expression or solve each equation, showing appropriate, organized work.

1. $-4(4x - 5) = 45$

$-16x + 20 = 45$
 $-16x = 25$
 $x = -\frac{25}{16}$
 -1.5625

2. $3(5 - 4x) - (x + 2)$

$= 15 - 12x - x - 2$
 $= 13 - 13x$

3. $x(3x - 1) = 0$

$x = 0$ $3x - 1 = 0$
 $3x = 1$
 $x = \frac{1}{3}$

4. $|x| = 7$

$x = \pm 7$

$\frac{4}{5}x = \frac{-32}{5}$
 $x = -40$
 2.3

5. $\frac{1}{2}(6x - 12y) - (3x - 6y)$

$= 3x - 6y - 3x + 6y$
 $= 0$

6. $\frac{4}{5}x - 7 = 39$

$\frac{5}{4} \left[\frac{4}{5}x \right] = \frac{127}{4} \cdot \frac{5}{4}$
 $x = 60$

$\frac{4}{5}x = \frac{46}{5}$
 $x = \frac{115}{2} = 57.5$

7. $x^2 + 6x = 0$

$x(x + 6) = 0$
 $x = 0$ $x + 6 = 0$
 $x = -6$

8. $0x = 6$

x is undefined
 no such #

II. Solve and graph

1. $0 > x$



2. $4x > 20$

$x > 5$



3. $|x| > 2$

$x > 2$
 $x < -2$



3 u

2 eq

III. Find the distance between $-\frac{3}{4}$ and $4\frac{3}{4} = \frac{19}{4}$

3

$$D = \left| -\frac{3}{4} \right| + \left| \frac{19}{4} \right|$$

$$= \frac{3}{4} + \frac{19}{4} = \frac{22}{4} = \boxed{5.5}$$

IV. Give an example of a number that is:

2^{er}

1. real but not rational π irrat
2. rational but not an integer 3.1 fraction/decimal
3. an integer but not a whole number -5 neg
4. a whole number but not a natural number 0

EXTRA CREDIT: Set up and solve using algebra – show all work (partial credit is unlikely)

x4

Kim has 40 coins worth a total of \$8.80. Some of the coins are nickels and the rest are quarters. How many of each kind of coin does Kim have?

$$\begin{aligned} n + q &= 40 \\ n &= 40 - q \end{aligned}$$

$$.05n + .25q = 8.80$$

$$.05(40 - q) + .25q = 8.80$$

$$2 - .05q + .25q = 8.80$$

$$.20q = 6.80$$

$$q = 34$$

$$\frac{6.80}{.20} = 34$$

$$\begin{aligned} n + q &= 40 \\ n + 34 &= 40 \\ n &= 6 \end{aligned}$$

$$.05(6) + .25(34) = 8.80$$

$$.30 + 8.50 = 8.80$$

34 quarters
6 nickels