W-A2 Algebra 2 Week 3 9/20

Find the opposite reciprocal.

| | | opp | reciprocal |
|---|---|---|---|
| 1.) | 8 | $-8$ | $-\frac{1}{8}$ |
| 2.) | $-4/3$ | $4/3$ | $3/4$ |

Determine whether each is rational. Why?

3.) 9 Rational counting, whole, integer.

4.) 0 Rational whole, integer

5.) 0.222... Rational repeating decimal

6.) 0.453454... Rational terminal

7.) $-7$ Rational integer

8.) $\sqrt{48}$ irrational not perfect square

9.) $\sqrt{36}$ Rational perfect square

10.) 0.767676... Rational repeating

11.) $3/5$ Rational fraction

$8a^2 - (2b^3 + 6a)$

$a = \boxed{3}$ $b = \boxed{4}$

$8(3)^2 - (2(4)^3 + (6)(3))$

$8(3)^2 - (2(64) + (6)(3))$

$8(3)^2 - (128 + 18)$

$8(3)^2 - (146)$

$8(9) - 146$

$72 - 146 = \boxed{-74}$

P
E
MD
AS

$4x^2 - (3x^3 - 8y)$ $\quad x=2 \quad y=6$

$4(2)^2 - (3(2)^3 - 8(6))$

$4(2)^2 - (3(8) - 8(6))$

$4(2)^2 - (24 - 48)$

$4(2)^2 - (-24)$

$4(2)^2 + 24$

$4(4) + 24 = 16 + 24 = \boxed{40}$

Simplify. "combine like terms"

$2(m - n^2) - 6(n^2 + 3m)$

$2m \quad -2n^2 \quad -6n^2 \quad -18m$

$2m - 18m \qquad -2n^2 - 6n^2$

$\boxed{-16m \quad -8n^2}$

$4(2x + 6y^2 - 8y) + 3(5x - 2y^2)$

$8x + 24y^2 - 32y + 15x - 6y^2$

$8x + 15x \qquad 24y^2 - 6y^2$

$23x \qquad 18y^2 - 32y$

$$23x + 18y^2 - 32y$$

$F = ART$

$F = A * R * T$

$\frac{F}{RT} = \frac{A * R * T}{RT}$

solve $A$

$$A = \frac{F}{RT}$$

$PV = nRT$

$\frac{PV}{nT} = \frac{nRT}{nT}$

$$R = \frac{PV}{nT}$$

$\sqrt{36} = \pm 6$

$(+6)(+6) = 36$

$(-6)(-6) = 36$

$\frac{A}{\pi} = \frac{\pi r^2}{\pi}$

$\sqrt{r^2} = \sqrt{\frac{A}{\pi}}$

$$r = \pm\sqrt{\frac{A}{\pi}}$$

$3m - n = 2m + n$

$+n \qquad +n$

$3m = 2m + 2n$

$-2m \quad -2m$

$\boxed{m = 2n}$

$m =$

simplify first

combine like terms

$2(u + 3v) = w - 5u$ $\quad u =$

$2u + 6v = w - 5u$

$+5u \qquad\qquad +5u$

$7u + 6v = w$

$-6v \quad -6v$

$\frac{7u}{7} = \frac{w - 6v}{7}$

$$\boxed{u = \frac{w - 6v}{7}}$$

$ax + b = cx + d$ $\quad x =$

$-b \qquad -b$

$ax = cx + d - b$

$-cx \quad -cx$

$ax - cx = d - b$

$$\boxed{x = \frac{d - b}{a - c}}$$

$\frac{x(a - c)}{a - c} = \frac{d - b}{a - c}$

$12\left(\frac{2}{3}f + \frac{5}{12}g\right) = (3 - fg)12$ $f =$

multiply by the LCM least common multiple/denominator

3: 3, 6, 9, (12), 15, 18, 21, 24...

12: (12), 24, 36, 48, 60...

$\frac{24}{3}f + \frac{60}{12}g = 36 - 12fg$

$8f + 5g = 36 - 12fg$

$-5g \qquad -5g$

$8f = 36 - 5g - 12fg$

$+12fg \qquad +12fg$

$8f + 12fg = 36 - 5g$

$\frac{f(8+12g)}{8+12g} = \frac{36-5g}{8+12g}$ $\qquad f = \frac{36-5g}{8+12g}$

$\frac{x+a}{b} = \frac{4}{5}$ $\qquad 5(x+a) = 4b$