

QUARTER EXAM 4 REVIEW

ADD, SUBTRACT, MULTIPLY, & DIVIDE
RATIONAL EXPRESSIONS

- FIND THE LCD

- REDUCE

SIMPLIFY COMPLEX FRACTIONS

SOLVE EQUATIONS WITH RATIONAL EXPRESSIONS

APPLICATIONS

EXPECT WORK PROBLEMS

AND $D=RT$ PROBLEMS

SIMPLIFY EXPONENTS

FACTORING

POLYNOMIAL OPERATIONS

PYTHAGOREAN THEOREM

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

$$(x^2 + 2x + 9)(x^3 - 8)$$

$$x^2 + 3x - 5 - x - 4$$

$$x^2 + 2x - 9$$

$$x^5 - 8x^2 + 2x^4 - 16x + 9x^3 - 72$$

$$x^5 + 2x^4 + 9x^3 - 8x^2 - 16x - 72$$

$$(x^5 + 3x^3 - x + 8) \div (x + 4)$$

$$x^4 - 4x^3 + 19x^2 - 76x + 303 \quad R: -1204$$

$$x+4 \begin{array}{r} x^5 + 0x^4 + 3x^3 + 0x^2 - x + 8 \\ - (x^5 + 4x^4) \end{array}$$

$$-4x^4 + 3x^3$$

$$- (-4x^4 - 16x^3)$$

$$19x^3 + 0x^2$$

$$- (19x^3 + 76x^2)$$

$$-76x^2 - x$$

$$- (-76x^2 - 304x)$$

$$303x + 8$$

$$- (303x + 1212)$$

$$\underline{R - 1204}$$

6.8 Ex. 7 Hourly Rates

	PAY	RATE	TIME
GARDENER	80	$80/x$	x (4)
HELPER	80	$80/12-x$	$12-x$ (8)

G #

$$\frac{80}{x} = \frac{80}{12-x} + 10$$

$$x(12-x) \left[\frac{80}{x} = \frac{80}{12-x} + 10 \right]$$

$$\frac{80x(12-x)}{x} = \frac{80x(12-x)}{(12-x)} + 10x(12-x)$$

$$960 - 80x = 80x + 120x - 10x^2 - 200x + 10x^2$$

$$\frac{10x^2 - 280x + 960 = 0}{10 \quad 10}$$

$$x^2 - 28x + 96 = 0$$

$$(x-4)(x-24) = 0$$

$x = 4 \quad x = 24$

- 96
- 1 96
- 2 48
- 3 32
- 4 24

6.8 Ex. 8

	PRICE PER LB.	x	LBS.	=	TOTAL PRICE
ORANGES	x 40¢		$\frac{12}{x}$ 30 LBS		12
GRAPEFRUIT	$2x$ 80¢		$\frac{16}{2x}$ 20 LBS		16
			50		

$$x \left(\frac{12}{x} + \frac{\cancel{16}8}{\cancel{2}x} = 50 \right)$$

$$\frac{12\cancel{x}}{\cancel{x}} + \frac{8\cancel{x}}{\cancel{x}} = 50x$$

$$\frac{20}{50} = \frac{\cancel{50}x}{\cancel{50}}$$

$$x = 0.4$$

6.7 EX. 8

THERE ARE 3 FT IN 1 YD

HOW MANY FEET ARE IN 12 YD?

$$\frac{12 \cancel{\text{YD}}}{1} \times \frac{3 \text{ FT}}{1 \cancel{\text{YD}}} = 36 \text{ FT}$$

CONVERSION FACTOR

ALWAYS MULTIPLY.

SET UP THE CONVERSION FACTOR WITH
THE UNITS YOU WANT OVER THE UNITS YOU
HAVE.

6.5 Ex. 5

$$\frac{\frac{1}{4} + \frac{1}{6}}{\frac{1}{2} + \frac{2}{3}} \cdot \left(\frac{12}{12} \right) = \frac{\frac{12}{4} + \frac{12}{6}}{\frac{12}{2} + \frac{24}{3}}$$

$$= \frac{3 + 2}{6 + 8} = \frac{5}{14}$$

b.2 Ex.7

a.) $\frac{200}{x} \frac{\text{mi.}}{\text{hr.}}$

b.) $D = RT$

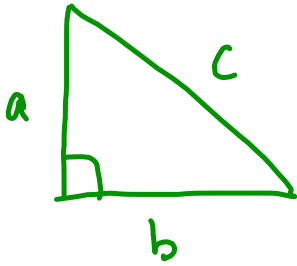
$$D = \left(\frac{200}{x}\right)(3) = \frac{600}{x} \text{ mi.}$$

Ex. 8

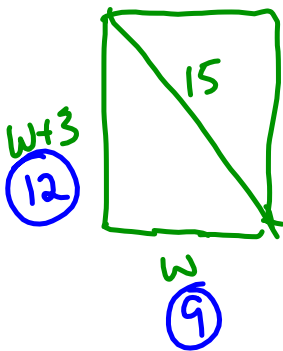
a.) $\frac{1}{x} \frac{\text{TUB}}{\text{MIN}}$

b.) $\frac{1}{x} \cdot 10 \text{ MIN} = \frac{10}{x} \text{ TUBS}$

$$W = R \cdot T$$



$$a^2 + b^2 = c^2$$



$$w^2 + (w+3)^2 = 15^2$$

$$w^2 + w^2 + 6w + 9 = 225$$

$$\frac{2w^2 + 6w - 216}{2} = \frac{0}{2}$$

$$w^2 + 3w - 108 = 0$$

$$(w-9)(w+12) = 0$$

$$w=9 \quad w=-12$$

$$\left(\frac{-10b^5c^9}{2b^5c^3}\right)^{-2} = (-5c^6)^{-2}$$

$$= \left(\frac{1}{-5c^6}\right)^2 = \frac{1}{25c^{12}}$$

$$5b \left(\frac{a^{-2}}{5b}\right)^{-3} = 5b \left(\frac{1}{5a^2b}\right)^{-3}$$

$$= 5b(125a^6b^3) = 625a^6b^4$$

P
E
MD
AS

$$a^2 - b^2 = (a+b)(a-b)$$

$$a^3 - b^3 = (a-b)(a^2 + ab + b^2)$$

$$a^3 + b^3 = (a+b)(a^2 - ab + b^2)$$

$$a^4 - b^4 = (a^2 + b^2)(a+b)(a-b)$$

$$a^2 + 2ab + b^2 = (a+b)^2$$

$$a^2 - 2ab + b^2 = (a-b)^2$$