

12.3 Multiplying Rational Expressions with work

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Multiply without using a calculator.

$$\frac{9}{14} \cdot \frac{21}{45} = \frac{3}{10}$$

$$\frac{1}{2} \cdot \frac{5}{21} = \frac{5}{42}$$

$$\frac{7x^2y}{12z^3} \cdot \frac{14z}{4xy^4} = \frac{49x^2y^2z}{24xy^4z^3} = \frac{49x}{24y^2z}$$

$$\frac{5c^2d^4}{18q^3r} \cdot \frac{6q^5r^4}{60c^2d^2} = \frac{dq^3r^3}{36}$$

ALWAYS REDUCE FIRST IF POSSIBLE!

-diagonal

-up

-down

NEVER SIDE TO SIDE!

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Find the product of each. Also state the excluded values.

$$\frac{x}{x+4} \cdot \frac{(x-8)(x+4)}{x^2-4x-32} = \frac{(x-8)}{x^2}$$

$$x+4 \neq 0 \quad x \neq 0$$

$$x \neq -4 \quad x \neq 0$$

$$\frac{b+3}{4b-12} \cdot \frac{(b-1)(b-3)}{b^2-4b+3} = \frac{b-1}{4(b-10)}$$

$$b \neq 3, 10, -3$$

$$\frac{(t+3)(t+3)}{t^2+6t+9} \cdot \frac{(t-5)(t+4)}{t^2-t-20} = \frac{(t+3)}{(t-5)}$$

$$t \neq 5, -3, -4$$

$$t-5 \neq 0 \quad t+3 \neq 0$$

$$\frac{(t+3)}{(t-5)}$$

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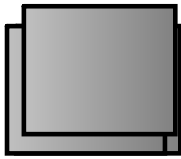
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Dimensional Analysis: Multiplying fractions that involve units of measure.

Convert 60 km/hr to meter per second.

$$\frac{60\cancel{\text{km}}}{1\cancel{\text{hr}}} \cdot \frac{1000\cancel{\text{m}}}{1\cancel{\text{km}}} \cdot \frac{1\cancel{\text{hr}}}{60\cancel{\text{min}}} \cdot \frac{1\cancel{\text{min}}}{60\text{sec}} = \frac{50\text{ m}}{3\text{ sec}}$$

$$\frac{60000}{3600}$$



Apr 28-8:32 AM

One Star One Wish

One STAR: write something you feel comfortable with or learned

One WISH: write something you wish you understood better.

Turn in your slip & Grab your worksheet for 12.3

A) odds

B) odds

C) 3, 5, 7, 11, 13, 14, 15, 16