

REDUCING FRACTIONS

↪ example 1:

Reduce the following fractions to lowest terms:

a) $\frac{6}{8}$

we ask, what is the largest number that divides evenly into the top (6) AND the bottom (8)?

_____ divides evenly into both.

$$\frac{6/2}{8/2} =$$

b) $\frac{42}{28}$

with large numbers, sometimes it's easier to divide top and bottom by small values to start.

$$\frac{42/2}{28/2} =$$

=

=

$$\frac{3}{3} = 1$$

But why?

We can divide top and bottom by 3.

$$\frac{3/3}{3/3} = \frac{1}{1} = 1$$

↳ example 2:

a) Reduce $\frac{3a}{3b}$

b) Reduce $\frac{4xy}{4y}$

c) Reduce $\frac{4xy}{4xyz}$

↳ example 3:

a) Reduce $\frac{3x^2y^3}{xy}$

$$\frac{3x^2y^3}{xy} = \frac{3 \cdot x \cdot x \cdot y \cdot y \cdot y}{x \cdot y}$$

$$= 3 \cdot \frac{x}{x} \cdot x \cdot \frac{y}{y} \cdot y \cdot y$$

$$= 3 \cdot 1 \cdot x \cdot 1 \cdot y \cdot y$$

$$= 3 \cdot x \cdot y \cdot y$$

$$= 3xy^2$$

ANOTHER APPROACH:

$$\frac{3x^2y^3}{xy} = \frac{3 \cdot x \cdot x \cdot y \cdot y \cdot y}{x \cdot y} = \frac{3 \cdot x \cdot y \cdot y}{1} = 3xy^2$$

b) Reduce $\frac{4x^2y^3z^5}{xy^4z^7}$

↳ example 4: Reduce:

$$a) \frac{4x}{8x}$$

$$b) \frac{42a^2}{30a}$$

$$c) \frac{102a^3b^2c^4}{114a^2b^3c^2}$$

$$d) \frac{6}{51}$$

$$e) \frac{6}{52}$$

$$f) \frac{6}{54}$$

REDUCING FRACTIONS Practice Problems

Reduce the following fractions to lowest terms:

1. $\frac{5}{10}$

2. $\frac{80}{24}$

3. $\frac{5a}{5ab}$

4. $\frac{7x^3y^2z}{x^2yz^3}$

5. a) $\frac{12}{48}$

b) $\frac{12}{50}$

c) $\frac{12}{52}$