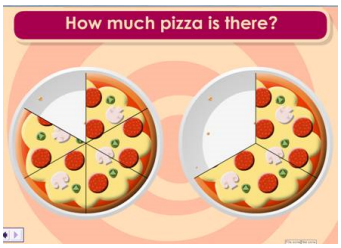
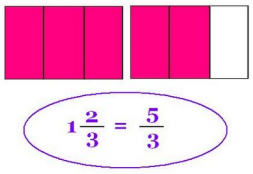


Unit 3

Operations with Fractions



$$\frac{24}{32} X \frac{4}{7} = ???$$

Fractions

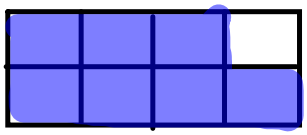
What is a fraction?

A fraction shows a part of the whole.

It contains 2 parts, the numerator and the denominator.

- The numerator is the top number and it tells you how many pieces you have.
- The denominator is the bottom number and it tells you how many pieces the whole is divided into.

Example: $\frac{7}{8}$ ← shaded in ← cut into 8 parts



Equivalent Fractions/ Reducing Fractions

*To get equivalent fractions, multiply (or divide) both the numerator and denominator by the same number.

*When reducing fractions, divide both the numerator and denominator by the same number. If there is no number that the numerator and denominator can be divided by, then the fraction is in lowest terms.

Examples:

$\frac{2}{9} \times 3 \times 3 = \frac{6}{27}$

$\frac{20}{36} \div 4 \div 4 = \frac{5}{9}$

Try the following:

(a) $\frac{6}{16} \div 2 \div 2 = \frac{3}{8}$

(b) $\frac{8}{9} \times 3 \times 3 = \frac{24}{27}$

(c) $\frac{5}{12} \times 4 \times 4 = \frac{20}{48}$

(d) $\frac{12}{84} \div 4 \div 4 = \frac{3}{21}$

2. Write 3 equivalent fractions for each of the following:

(a) $\frac{5}{8}$

$\frac{5 \times 2}{8 \times 2} = \frac{10}{16}$

$\frac{5 \times 3}{8 \times 3} = \frac{15}{24}$

$\frac{5 \times 4}{8 \times 4} = \frac{20}{32}$

(b) $\frac{60}{100} \div 10 \div 10$

$\rightarrow \frac{6}{10} \div 2 \div 2$

$\rightarrow \frac{3}{5}$

$\frac{3 \times 7}{5 \times 7}$

$\rightarrow \frac{21}{35}$

(c) $\frac{4}{6} \div 2 \div 2$

$\frac{2}{3}$

$\frac{2 \times 3}{3 \times 3} = \frac{6}{9}$

$\frac{2 \times 4}{3 \times 4} = \frac{8}{12}$

(d) $\frac{6}{11}$

$\frac{6 \times 2}{11 \times 2} = \frac{12}{22} \times 2 = \frac{24}{44}$

$\frac{6 \times 3}{11 \times 3} = \frac{18}{33}$

Ex)

Write an equivalent fraction with a denominator of 10, 100 or 1000. Then rewrite as a decimal.

a) $\frac{4}{5} = \frac{8}{10}$ (×2 / ×2)

$= 0.8$

b) $\frac{10}{25} = \frac{40}{100}$ (×4 / ×4)

Reduce

$= \frac{4}{10}$

$= 0.4$

0.40

c) $\frac{6}{200}$ ÷2 ÷2

$\frac{3}{100}$

$= 0.03$

d) $\frac{1}{8} = \frac{125}{1000}$ (×125 / ×125)

0.125

Class/Homework

Sheet 137 # 1-8

$\frac{3}{5} \overset{\times 2}{=} \frac{6}{10} = 0.6$

$\frac{7}{25} \overset{\times 4}{=} \frac{28}{100} = 0.28$

Attachments

Sheet 137 Equivalent Fractions.docx