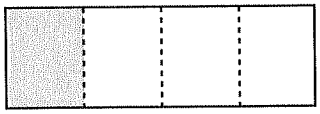
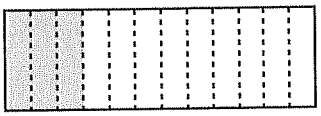
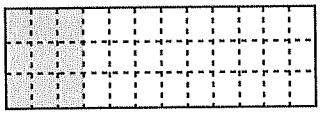
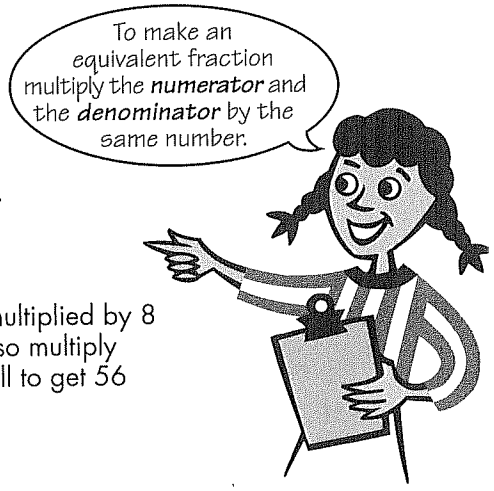
Number: Equivalent Fractions

Jan divides her chocolate bar into parts of equal size. Shown below are 3 ways Jan can break off equivalent pieces (shown shaded) of her chocolate bar.

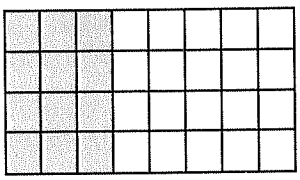
4 equal parts	12 equal parts	36 equal parts
		
Each part is $\frac{1}{4}$ Shaded piece is $\frac{1}{4}$	Each part is $\frac{1}{12}$ Shaded piece is $\frac{3}{12}$	Each part is $\frac{1}{36}$ Shaded piece is $\frac{9}{36}$

The fractions $\frac{1}{4}$, $\frac{3}{12}$ and $\frac{9}{36}$ all represent the same amount of chocolate in Jan's bar.
They are called ***equivalent fractions***.



Examples:

1. $\frac{3}{8} \overset{\times 4}{=} \frac{12}{32}$ (multiply by 4)



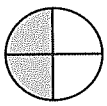
shaded part is either
3 strips out of 8 shaded, or
12 squares out of 32 shaded

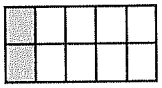
2. $\frac{5}{7} \overset{\times 8}{=} \frac{40}{56}$ (multiply by 8)

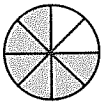
5 has been multiplied by 8 to make 40, so multiply 7 by 8 as well to get 56

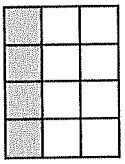
Practising Equivalent Fractions

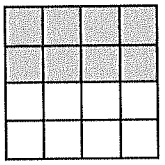
1. Name each diagram with two equivalent fractions.

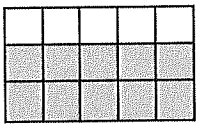
* 
$\frac{1}{2} = \frac{2}{4}$

a. 
$\frac{\quad}{5} = \frac{\quad}{\quad}$

b. 
$\frac{\quad}{4} = \frac{\quad}{\quad}$

c. 
$\frac{\quad}{3} = \frac{\quad}{\quad}$

d. 
$\frac{\quad}{4} = \frac{\quad}{\quad}$

e. 
$\frac{\quad}{3} = \frac{\quad}{\quad}$

2. Make equivalent fractions by multiplying numerator and denominator by the same number. One is done for you.

* $\frac{3}{4} \overset{\times 2}{=} \frac{6}{8}$ (multiply by 2)

a. $\frac{2}{3} \overset{\times}{=} \frac{\quad}{9}$ (multiply by ?)

b. $\frac{7}{8} \overset{\times}{=} \frac{\quad}{40}$ (multiply by ?)

c. $\frac{5}{12} \overset{\times}{=} \frac{20}{\quad}$ (multiply by ?)

d. $\frac{7}{10} \overset{\times}{=} \frac{\quad}{100}$ (multiply by ?)

e. $\frac{4}{5} \overset{\times}{=} \frac{12}{\quad}$ (multiply by ?)

3. Rewrite each fraction as an equivalent fraction over 10 or 100.

a. $\frac{4}{5} = \frac{\quad}{10}$ b. $\frac{7}{20} = \frac{\quad}{100}$ c. $\frac{3}{4} = \frac{\quad}{100}$ d. $\frac{13}{20} = \frac{\quad}{100}$ e. $\frac{11}{25} = \frac{\quad}{100}$

f. $\frac{1}{2} = \frac{\quad}{10}$ g. $\frac{9}{50} = \frac{\quad}{100}$ h. $\frac{2}{5} = \frac{\quad}{10}$ i. $\frac{13}{50} = \frac{\quad}{100}$ j. $\frac{7}{25} = \frac{\quad}{100}$

■ *Level 4: Find fractions equivalent to one given.*