Equivalent Fractions Extended

Equivalent Fractions are fractions that have equal value (equi / valent)

EXAMPLE: $\frac{1}{2} = \frac{4}{8}$

You can generate an equivalent fraction by multiplying or dividing the numerator & denominator by some constant

EXAMPLE: $\frac{1}{2} = \frac{1*4}{2*4} = \frac{4}{8}$

The same skill is used when the values of the numerator and denominator are not known.

$\frac{c}{2} = \frac{c*4}{2*4} = \frac{4c}{8}$ or $\frac{3}{d} = \frac{3*3}{d*3} = \frac{9}{3d}$ $d \neq 0$ (here we have declared any value of d that is impossible because it would turn the denominator to "0")

If you are given three parts to the equality, you can solve for the fourth:

EXAMPLE: $\frac{1}{2} = \frac{4}{?}$

If the two fractions are equivalent, then their cross products are equivalent 1 (?) = 2 (4)

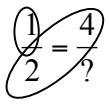
1 (?) = 8

Then, you can divide by the coefficient of the unknown (?) = 8/1=8

So $\frac{1}{2} = \frac{4}{8}$

The shortcut for this is "Multiply the Couple" and "Divide by the Odd Man Out"

odd man the couple So…. (2x4) /1 = ?



multiply the couple divide by the odd man

$\frac{a}{2} = \frac{6}{?} = (2*6)/a$ so, $? = 12/a$ $a \neq 0$ and you are done!

(remember to always tell me if a variable has some value that it CAN NOT be!)

If you had a problem like $4 * (x + 3)$ *That means 4 times every thing inside the parentheses.* $4 * x + 4 * 3 = 4x + 12$

PROBLEMS: Find theree equivalent fractions for each fraction given below..

1) $\frac{3a}{2} =$ 2) $\frac{18}{2c} =$ 3) $\frac{5}{cw} =$

Find the missing element in these equivalent fractions.

4) $\frac{2}{5} = \frac{c}{?}$ 5) $\frac{v}{?} = \frac{8v}{16}$ 6) $\frac{?}{2} = \frac{12c}{8c}$

7) $\frac{6}{d} = \frac{18}{?}$ 8) $\frac{a}{2} = \frac{?}{3d}$ 9) $\frac{3e}{4} = \frac{6}{?}$

10) $\frac{m+1}{2} = \frac{?}{5}$ 11) $\frac{7}{8} = \frac{?}{m-3}$ 12) $\frac{?}{w+1} = \frac{6}{2(w+1)}$

13) $\frac{a}{2} = \frac{6}{?}$ 14) $\frac{a}{2} = \frac{6}{?}$ 15) $\frac{a}{2} = \frac{6}{?}$

16) Now, just for the fun of it, you make up a pair of equivalent fractions and see if you can find the missing part.