

Ratio and Proportion

- a proportion occurs when two ratios are equal to each other.

ex. $5:2 = 10:4$

or $60:15 = 20:5$

ex. Find the missing number...

a) $3:4 = 9:n$
 $n = 4 \times 3$
 $n = 12$

b) $12:8 = n:2$
 $n = 12$ divided by 4
 $n = 3$

c) $3:4 = 4:n$ * this doesn't multiply/divide evenly...so....

$3/4 = 4/n$ 1 - write as a fraction
 $3n = 4(4)$ 2 - cross multiply
 $3n = 16$
 $n = 16/3$ 3 - divide
 $n = 5.3333$

** remember, when turning a ratio into a fraction, the first number in the ratio always goes on the top part of the fraction.

d) $6:x = 11:7$
 $6/x = 11/7$
 $6(7) = 11(x)$
 $42 = 11x$
 $42/11 = x$
 $3.8181 = x$

e) $a:15 = 18:20$
 $a/15 = 18/20$
 $a(20) = 18(15)$
 $20a = 270$
 $a = 270/20$
 $a = 13.5$

