Proportions Review

A proportion is the equality of two ratios.

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

$\frac{20}{15} = \frac{4}{3}$

We solve a proportion by cross-multiplying.

examples

① $\frac{4}{9} = \frac{p}{8}$

$9p = 32$

$p = 3.56$

② $\frac{x}{3} = \frac{30}{50}$

$50x = 90$

$x = \frac{90}{50}$

$x = \frac{9}{5}$ or 1.8

③ $\frac{2}{a+7} = \frac{4}{5}$

$(a+7)4 = 10$

$4a + 28 = 10$

$4a = -18$

$a = -4.5$ or $-\frac{9}{2}$

④ $\frac{n+2}{2} = \frac{n}{5}$

$2n = 5(n+2)$

$2n = 5n + 10$

$-10 = 3n$

$n = -\frac{10}{3}$ or $-3.\overline{3}$

⑤ $\frac{9}{k+5} = \frac{7}{k-5}$

$7(k+5) = 9(k-5)$

$7k + 35 = 9k - 45$

$80 = 2k$

$k = 40$