

BE-1A

TUESDAY 2-26-08

- ① Find the slope of the line through:
 Ⓐ $(-2, 6), (-4, 3)$
 Ⓑ $(4, 9), (4, -2)$
 - ② Find the EOL of the line through:
 Ⓐ $(2, 1), (0, 6)$
 Ⓑ $(5, 3), (0, 0)$
 - ③ Which of the above lines is a direct variation?
 - ④ Graph $y = 2$. What is its slope?
 - ⑤ Graph $x = -4$. What is its slope?
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TAKE OUT HOMEWORK. PAGE 268 #15, 18, 21,
33 to 35.

RATIO A COMPARISON OF TWO numbers by division.

ex) $\frac{3}{5}$

PROPORTION AN EQUATION THAT STATES two ratios ARE EQUAL.

ex) $\frac{3}{5} = \frac{12}{20}$

CROSS-PRODUCTS OF A PROPORTION

~~$\frac{a}{b} = \frac{c}{d}$~~ If this is the proportion,
ad and bc ARE its cross products

THE CROSS PRODUCTS OF ANY proportion ARE EQUAL.

PROVE THAT THE CROSS-PRODUCTS OF ANY PROPORTION ARE EQUAL:

Let $\frac{a}{b} = \frac{c}{d}$ be any proportion

Multiply both sides by b

$$\cancel{b} \cdot \frac{a}{\cancel{b}} = b \cdot \frac{c}{d}$$

$$a = \frac{bc}{d}$$

Multiply both sides by d

$$a \cdot d = \frac{bc}{\cancel{d}} \cdot \cancel{d}$$

$$\therefore ad = bc \quad \text{Q.E.D.}$$

LATIN: quod erat demonstrandum
"that which was to be demonstrated"

Using cross-products to solve proportions:

Ex 3
pg 156

$$\frac{N}{15} = \frac{24}{16}$$

$$\frac{16N}{16} = \frac{15 \cdot 24}{16}$$

$$N = \frac{15 \cdot 24}{16} = \boxed{\frac{45}{2} \text{ or } 22.5}$$

Ex) $\frac{2-x}{5} = \frac{12}{7}$

$$7(2-x) = 5 \cdot 12$$

$$\begin{array}{r} 14 - 7x = 60 \\ -14 \quad \quad -14 \end{array}$$

$$\frac{-7x}{-7} = \frac{46}{-7}$$

$$\boxed{x = -\frac{46}{7}}$$

Homework: • READ Ch. 3-6

• Pg 158 # 19 to 24.
