

BE-1B THURSDAY 8-24-06

AHSGE WORKBOOK

Page 29 # 10, 11, 12

Page 36 # 4

Name THE SET OF NUMBERS:

$\{0, 1, 2, 3, \dots\}$

$\{\dots, -3, -2, -1, 0, 1, 2, 3, \dots\}$

$\{\frac{a}{b} \mid a, b \text{ are integers, } b \neq 0\}$

$\{\text{non-terminating, non-repeating decimals}\}$

QUIZ FRI. @ 3-1 @ 3.5 + today's work

①

ratio ANOTHER NAME for A
fraction $\Rightarrow$ comparing
2 numbers by division.

ex) $\frac{2}{3}$

proportion A type of equation
that states 2
ratios ARE EQUAL

ex) $\frac{2}{12} = \frac{1}{6}$

Any proportion $\Rightarrow \frac{a}{b} = \frac{c}{d}$

Proportions show up a lot in algebra
and they have a property that makes
them easy to solve.

2

Suppose $\frac{a}{b} = \frac{c}{d}$

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

$$\frac{da}{b} = c$$

then $\cancel{b} \cdot \frac{da}{\cancel{b}} = c \cdot b$ MULTIPLY

$$\therefore da = cb$$

i.e. $\frac{a}{b} = \frac{c}{d}$

Ex) $\frac{6}{15} = \frac{N}{45}$

$$\frac{15N}{15} = \frac{6 \cdot 45}{15}$$

$$\boxed{N = 18}$$

③

$$\text{Ex) } \frac{2}{3} = \frac{b+5}{9}$$

$$2 \cdot 9 = 3(b+5)$$

$$18 = 3b + 15$$

$$\begin{array}{r} -15 \end{array} \quad \begin{array}{r} -15 \end{array}$$

$$\frac{3}{3} = \frac{3b}{3}$$

$$\boxed{b = 1}$$

$$\text{Ex) } \frac{6}{8} = \frac{9}{s-4}$$

$$72 = 6s - 24$$

$$96 = 6s$$

$$16 = s \quad \therefore \boxed{s = 16}$$