

BE-Alg. 2 Thursday 8-18-11

Name EACH set of numbers:

① $\{1, 2, 3, \dots\}$

② $\{0, 1, 2, 3, \dots\}$

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

④ $\{\frac{a}{b}\}$ where a, b are members of set ③, $b \neq 0$

⑤ $\{\text{nonrepeating \& non-terminating decimals}\}$

⑥ $\{\text{sets ④ and ⑤}\}$

ACT
practice
'Barrows'
1 min.

In a shipment of 10,000 headlights, 5% are defective. What is the ratio of defective headlights to non-defective headlights?

$$10\% \text{ of } 10,000 = 1000 \therefore 5\% = \frac{1000}{2} = 500$$

$$\therefore \frac{\text{def}}{\text{non-def}} = \frac{500}{10,000 - 500} = \frac{500}{9500} = \frac{5}{95} = \boxed{\frac{1}{19}}$$

OR By definition $\frac{5}{95} \Rightarrow \frac{5\% \text{ def}}{95\% \text{ OK}} = \frac{1}{19}!$

Ch. 1-3 Solving Equations

Follow the GRE $\Rightarrow$ Golden Rule of Equations
 "whatever you do to one side, do to the other"

Simple equations where the variable is to only the first power (EX) $3x = 9$ NOT $3x^2 = 9$

can be solved by doing "undos" until the variable is "by itself".
 +, - undo each other
 $\cdot$, $\div$ undo each other

want by itself

(EX) $a + 4.39 = 76$

$- 4.39 \quad - 4.39$

$a = 71.61$

$\leftarrow$ UNDO $+4.39$ with -4.39
 FOLLOW GRE

CK $() + 4.39 \stackrel{?}{=} 76$

$(71.61) + 4.39 = 76 \checkmark$

(EX) $-\frac{3}{5}d = 18$

$-\frac{5}{3} \cdot -\frac{3}{5}d = \frac{6}{18} \cdot -\frac{5}{3}$

$d = -30$

CK $-\frac{3}{5}(-30) \stackrel{?}{=} 18 \checkmark$

💡 Variables on both sides $\Rightarrow$ get together before other undos

💡 Like terms on same side $\Rightarrow$ always combine first

(EX)

$$3x + 4x + 2 = x - 16$$

combine like terms

$\swarrow \searrow$

$$7x + 2 = x - 16$$

use UNDO'S to get variables together, follow GRE

$-x$

$-x$

$$6x + 2 = -16$$

-2

-2

$$\frac{6x}{6} = \frac{-18}{6}$$

$$\boxed{x = -3}$$

(CK) $3(-3) + 4(-3) + 2 \stackrel{?}{=} (-3) - 16$

$$-9 - 12 + 2 \stackrel{?}{=} -19 \checkmark$$

Homework: WS 8-17-09 Ch. 1-3 (16 equations)