BE-Alg. 2 | Tuesday 8-17-10

Name each set of numbers:

1. $\{1, 2, 3, \ldots\}$
2. $\{0, 1, 2, 3, \ldots\}$
3. $\{\ldots -3, -2, -1, 0, 1, 2, 3, \ldots\}$
4. $\left\{\frac{a}{b}\right\}$ where a, b are members of set (3), $b \neq 0$
5. {nonrepeating, non-terminating decimals}
6. {sets (4) and (5)}

ACT practice 'Barrons' 1 min.

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

5% 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 GREE ⇒ 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 $3x^2 = 9$

$3x^1$

can be solved by doing "undos" until the variable is "by itself".

+, − UNDO each other

•, ÷ undo each other

WANT by itself

(EX) $a + 4.39 = 76$

$-4.39 \quad -4.39$ ← UNDO +4.39 with −4.39 FOLLOW GREE

$\boxed{a = 71.61}$

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

$(71.61) + 4.39 = 76$ ✓

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

$-\frac{5}{3} \cdot -\frac{3}{5}d = \frac{6}{18} \cdot \frac{-5}{3_1}$

$\boxed{d = -30}$

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

Variables on both sides ⇒ get together before other undos

Like terms on same side ⇒ always combine first

(Ex) $3x + 4x + 2 = x - 16$ Combine like terms

$7x + 2 = x - 16$ Use undo's to get variables together, follow GRE

$-x \qquad -x$

$6x + 2 = -16$

$-2 \qquad -2$

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

$\boxed{x = -3}$

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

$-9 - 12 + 2 \stackrel{?}{=} -19$ ✓

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