

ALGEBRA

PROPORTIONS

Ch 4 PRACTICE TEST

Pg 207 #3

$$-\frac{9}{m} = \frac{3}{2} \therefore 3m = -18 \therefore m = -6 \leftarrow \text{ANS}$$

$$\text{CK: } -\frac{9}{-6} \stackrel{?}{=} \frac{3}{2} \checkmark$$

Pg 207 #7

MODEL AIRPLANE $\Rightarrow \frac{1}{48}$ ACTUAL SIZE
 Wing of model $\Rightarrow \frac{3}{4}$ ft. How long is full size wing?

$$\frac{\text{Model}}{\text{real}} = \frac{1}{48} = \frac{\frac{3}{4}}{x} \therefore x = \frac{3}{4} \cdot \frac{12}{1} \therefore x = 36 \text{ ft} \leftarrow \text{ANS}$$

Eq's w/ VARIABLES ON BOTH SIDES

Pg. 207 #11

$$3(2t-6) = 2(3t-9)$$

$$6t-18 = 6t-18$$

$$-18 = -18 \therefore \text{since true, identity} \leftarrow \text{ANS}$$

or, {ALL REAL NUMBERS}

Pg 207 #12

$$4N-6N = 2N$$

$$-2N = 2N$$

$$0 = 4N$$

$$\frac{0}{4} = N \therefore N = 0 \leftarrow \text{ANS}$$

CK: $4(0) - 6(0) \stackrel{?}{=} 2(0)$
 $0 - 0 = 0 \checkmark$

ABS. VALUE EQ'S

Pg 208 #16

$$|6-6| = -1 \text{ STOP, ABS. VALUE } \neq \text{NEGATIVE, NO SOLUTION} \leftarrow \text{ANS}$$

Pg 208 #17

$$|k-8| = 0$$

Step 1, ISOLATE ABS. VALUE, Already done.
 Step 2, SPLIT INTO \oplus, \ominus Eq's
 NOTE: \ominus same as \oplus in this case.

$$k-8 = 0 \quad | \quad k-8 = 0$$

$$k = 8 \quad | \quad k = 8 \therefore \text{ONLY 1 SOLUTION } k = 8 \leftarrow \text{ANSWER}$$

CK: $|8-8| \stackrel{?}{=} 0 \checkmark$

TRANSFORMING Eq

Pg. 208 #23

OHM'S LAW $E = IR$ $E = \text{ELECTRICAL POTENTIAL (VOLTS)}$
 $I = \text{CURRENT (AMPS)}$
 $R = \text{RESISTANCE (OHMS)}$

Ⓐ Solve for I $E = IR \therefore I = \frac{E}{R} \leftarrow \text{ANS}$

Ⓑ Find I if $E = 6 \text{ VOLTS}$
 $R = .15 \text{ OHMS} = \frac{15}{100}$

$$I = \frac{6}{\frac{15}{100}} \therefore I = 6 \cdot \frac{100}{15} = 40 \text{ AMPS} \leftarrow \text{ANS}$$

ALGEBRA

SOLVING INEQUALITIES

Ch 4 Practice Test

Pg. 208 #31

$$5x - 2 \geq 4x + 7$$

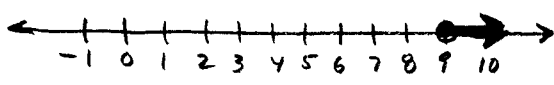
$$x - 2 \geq 7$$

$$x \geq 9$$

CK: False area of graph $0 \geq 9$ FALSE ✓

Boundary area of graph $9 \geq 9$ TRUE ✓

True Area of graph $10 \geq 9$ TRUE ✓



Compound Inequalities

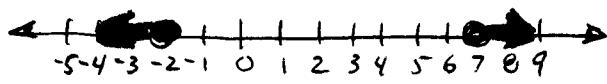
P. 209 #35

$$7t \geq 49 \text{ OR } 2t \leq -4$$

$$t \geq 7$$

OR

$$t \leq -2$$



Pg 209 #36

$$0 < -8b \leq 12$$

* NOTE "Flip" to > because \div by -8

$$0 < -8b$$

AND

$$-8b \leq 12$$

$$0 > b$$

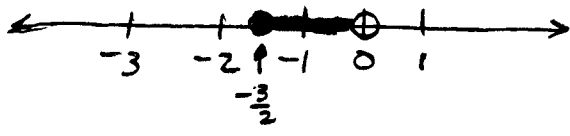
$$b < 0$$

AND

$$b \geq \frac{12}{-8}$$

$$b \geq -\frac{3}{2}$$

* NOTE "Flip" to \geq because \div by \ominus



Pg 209 #42

$$|4h - 11| \geq 7$$

All integers = replacement set

$$4h - 1 \geq 7$$

$$4h \geq 8$$

$$h \geq 2$$

$$4h - 1 \leq -7$$

$$4h \leq -6$$

$$\text{OR } h \leq -\frac{3}{2}$$

"Flip" to \leq for \ominus inequality

* MUST INCLUDE "OR" AS PART OF ANSWER

