

FEBRUARY 24, 2016

**UNIT 5: LINEAR EQUATIONS AND
INEQUALITIES**

**SECTION 6.2:
SOLVING EQUATIONS BY
USING BALANCE
STRATEGIES**

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*MATH 9***



WHAT'S THE POINT OF TODAY'S LESSON?

We will continue working on the Math 9 Specific Curriculum Outcome (SCO) "Patterns and Relations 3" OR "PR3" which states:

"Model and solve problems using linear equations in a variety of forms ($ax = b$; $ax + b = c$; $ax + b = cx + d$; $a(bx + c) = d(ex + f)$ etc.) concretely, pictorially and symbolically where a, b, c, d, e and f are rational numbers."



What does THAT mean???

SCO PR3 means ALGEBRA!!!



HOMWORK QUESTIONS??? 14
(page 286, #7; Worksheet, #1 TO #24) 17
7a

$$\begin{aligned} 7. a) \quad \frac{56}{a} &= -3.5 \\ \cancel{-19} \left(\frac{56}{a} \right) &= a(-3.5) \\ \frac{56}{-3.5} &= \frac{\cancel{-3.5}a}{-3.5} \\ -16 &= a \end{aligned}$$

HOMEWORK QUESTIONS???
(page 286, #7; Worksheet, #1 TO #24)

$$14. \quad 4x + \frac{1}{2}(12x + 2) = 3$$

$$4x + 6x + 1 = 3$$

$$\frac{\cancel{10}x}{10} = \frac{2}{10}$$

$$x = \frac{1}{5}$$

HOMEWORK QUESTIONS???
(page 286, #7; Worksheet, #1 TO #24)

$$17. \quad -3u - (5u + 7) = -2$$

$$-3u - 5u - 7 = -2$$

$$-8u - 7 = -2$$

$$\begin{array}{r} -8u = 5 \\ \hline -8 \quad -8 \end{array}$$

$$u = -\frac{5}{8}$$

USING EQUATIONS TO DETERMINE BREAK-EVEN POINTS:

A cell phone company offers 2 plans:

**Plan A: 120 free minutes; \$0.75 per additional
minute**

**Plan B: 30 free minutes; \$0.25 per additional
minute**

**Which time for calls will result in the same cost
for both plans?**

- a) Model the problem with an equation.**
- b) Solve the equation.**
- c) Verify the equation.**

Let "m" represent the number of minutes.

a) $0.75(m - 120) = 0.25(m - 30)$

b) $0.75m - 90 = 0.25m - 7.5$

$$0.75m - 90 - 0.25m = 0.25m - 7.5 - 0.25m$$

$$0.50m - 90 = -7.5$$

$$0.50m - 90 + 90 = -7.5 + 90$$

$$\frac{0.50m}{0.50} = \frac{82.5}{0.50}$$

$$0.50 \quad 0.50$$

$$m = 165 \text{ minutes}$$

c)

LS	RS
$0.75(m - 120)$	$0.25(m - 30)$
$0.75(165 - 120)$	$0.25(165 - 30)$
$0.75(45)$	$0.25(135)$
33.75	33.75

$$LS = RS \quad m = 165 \text{ minutes.}$$

(The cost for both plans for **165** minutes is **\$33.75**.)

CONCEPT REINFORCEMENT:

MMS9:

Page 281: #12 and #14

Page 282: #18

Page 283: #23

Remember to check your answers in the back of the book as part of your homework. The answers for this section begin on page 514.