



Date:

SCHEDULE

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Download Handout #1 From Website & Name It:
6.1LastNameSolvingEquations.pdf

Learning Goals:

By the end of this lesson, students will feel comfortable solving **one-step linear equations** and apply their knowledge to situations involving linear relationships.



Google Drive

CREATE NEW GOOGLE DRIVE FOLDER:
Unit 6 - Multiple Representations of Linear Relations



Mind Buster:
Concept Circles



Unit 6 - Multiple Representations
Day 1: Solving Equations



Bring It All Together:
Solve one-step equations on your own

How Was the Test?





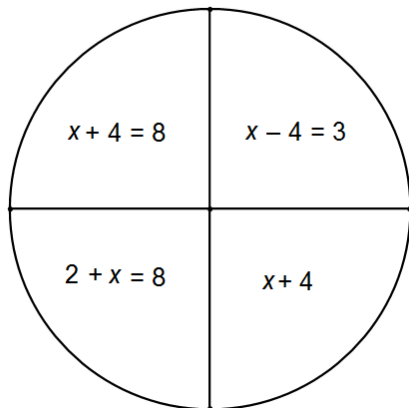
6.1: Concept Circles – Equations

MIND BUSTER

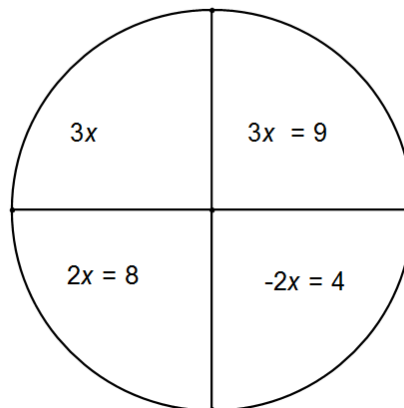
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1. Draw an "X" through the example that does not belong. Justify your answer.

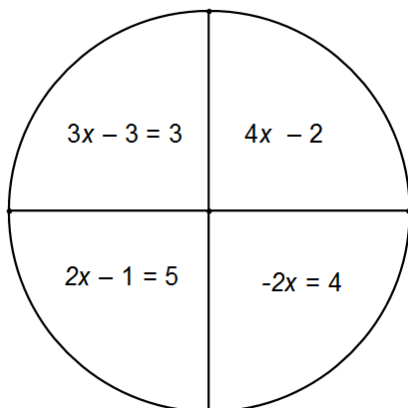
a)



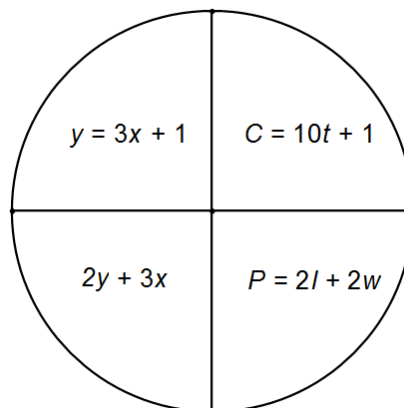
b)



c)



d)



2. Answer True (T) or False (F). Be prepared to justify your answer.

a) Every equation has exactly two sides. _____

b) Every equation has one equal sign. _____

c) Every equation has one variable. _____

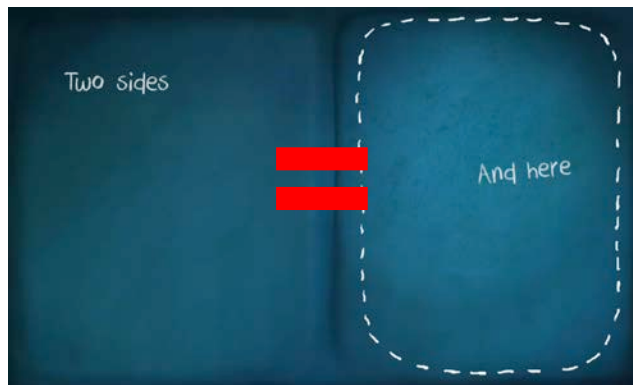


Recall: Dragon Box

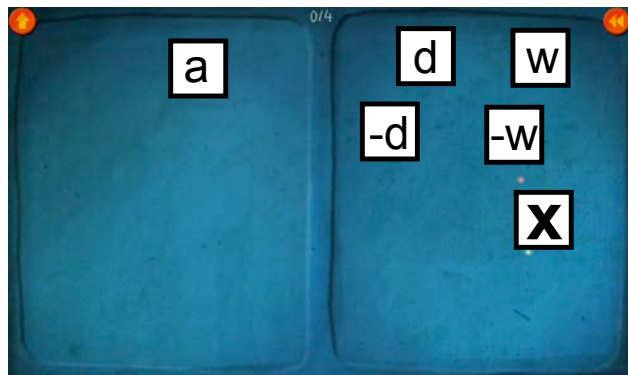
MIND BUSTER

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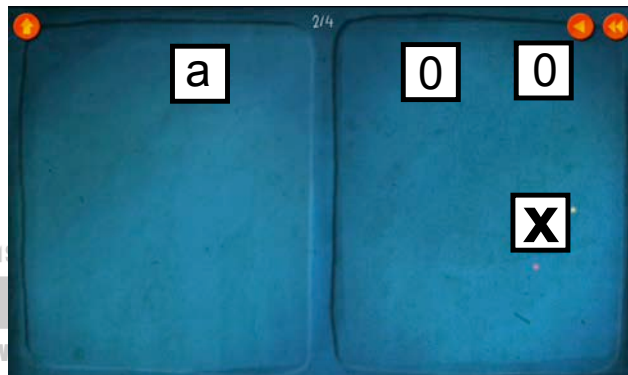
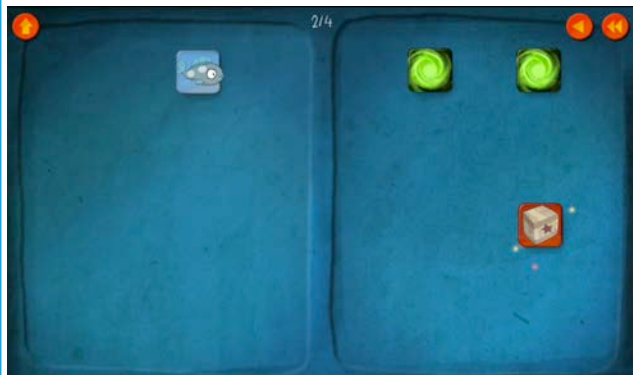
When playing the game, we are actually *solving equations!*



*The BOX represents the variable to be ISOLATED (i.e.: by itself).
Dragon cards represent other variables and dice are numbers.*



Note that the tornadoes represent the number "zero"





Solving Equations

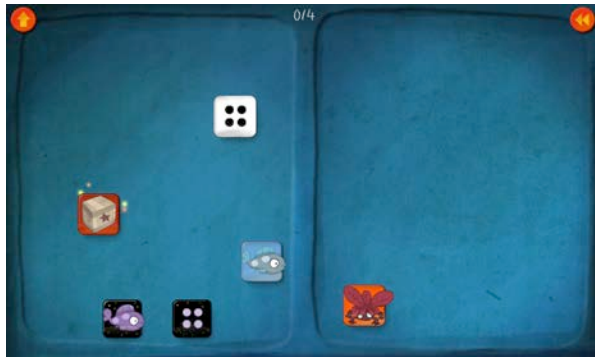
LESSON

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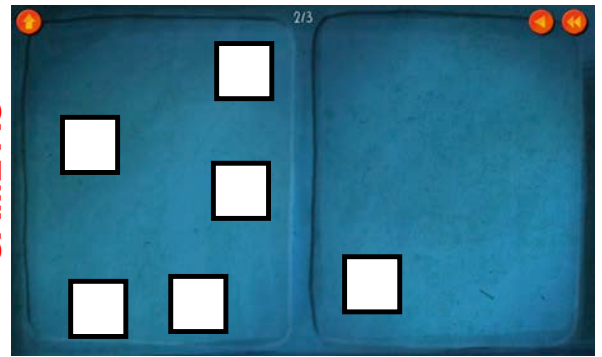
Visual Representation

Numerical Representation

1



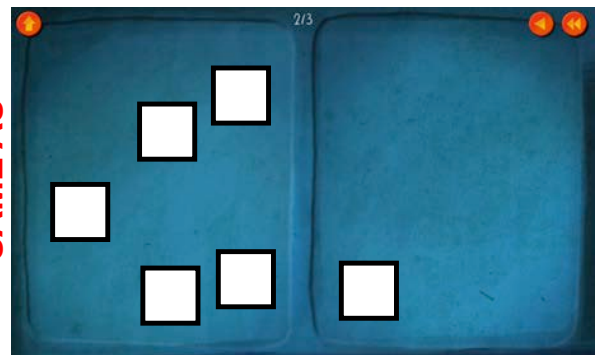
SAME AS



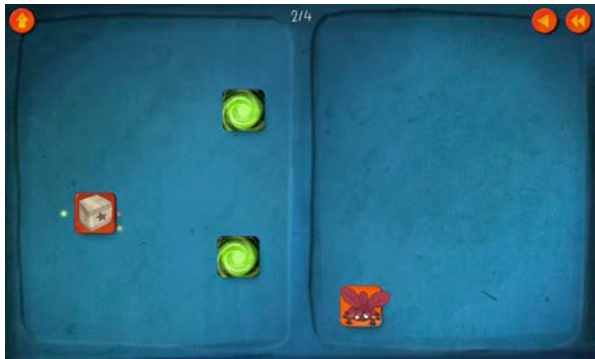
2



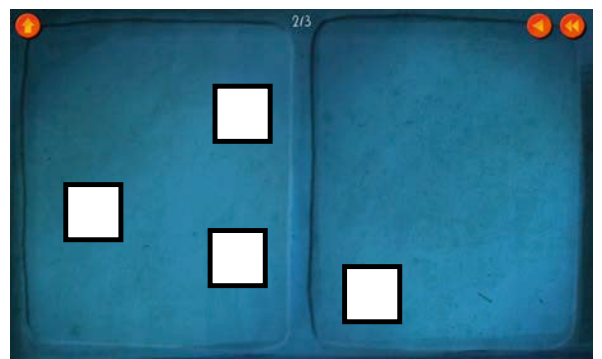
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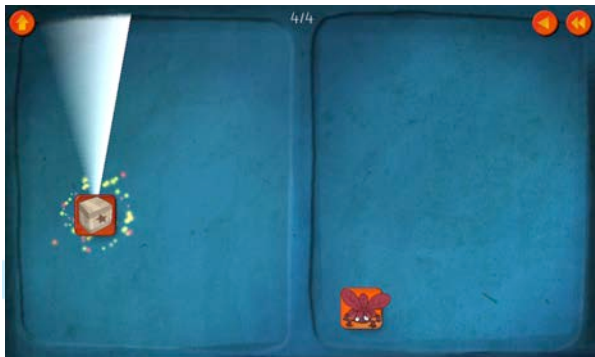
3



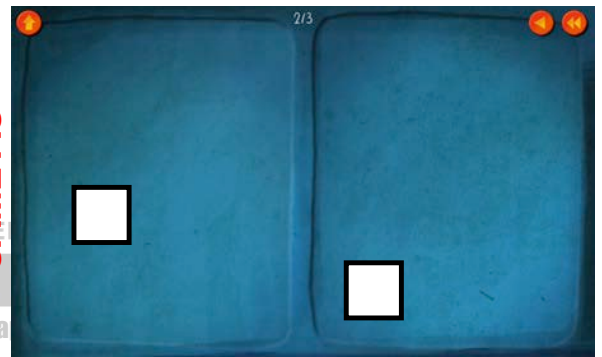
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4



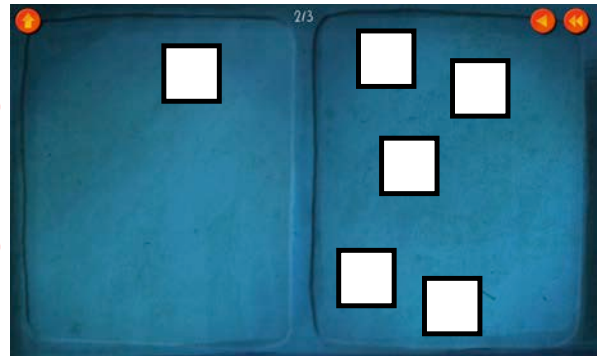
SAME AS



Visual Representation

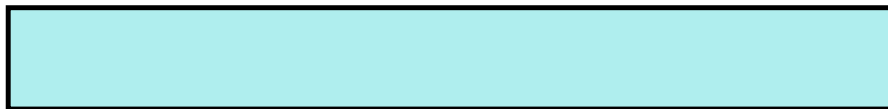
Numerical Representation

1



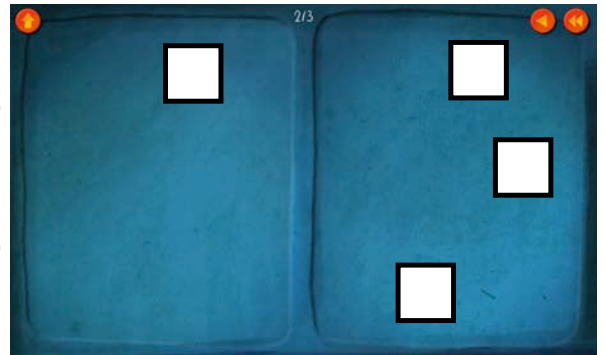
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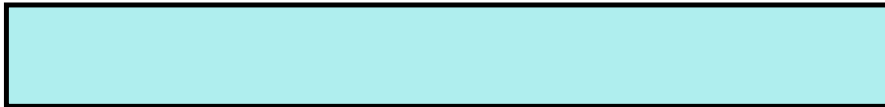
Algebraic Representation

2

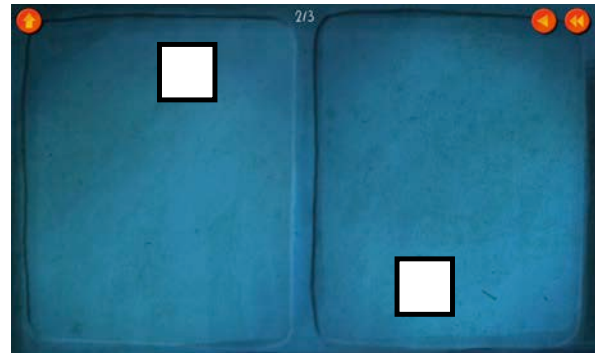
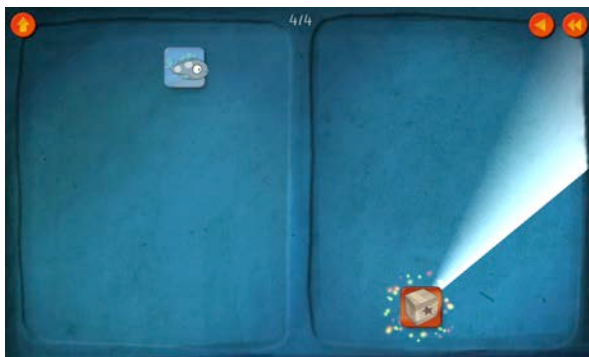


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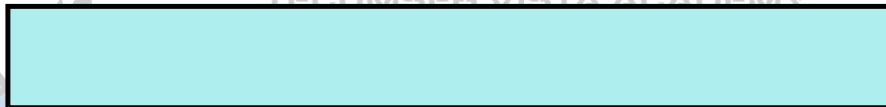
SAME AS



3



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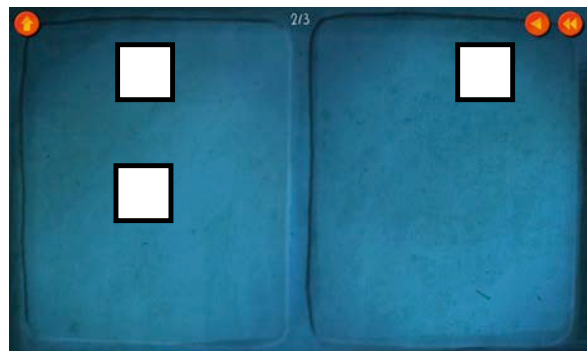
Visual Representation

Numerical Representation

1



SAME AS



SAME AS

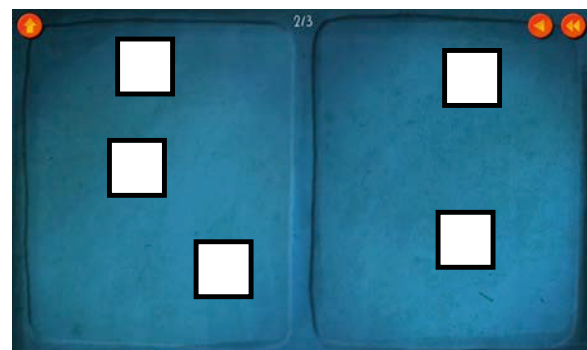


Algebraic Representation

2



SAME AS



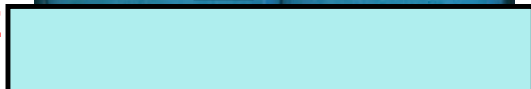
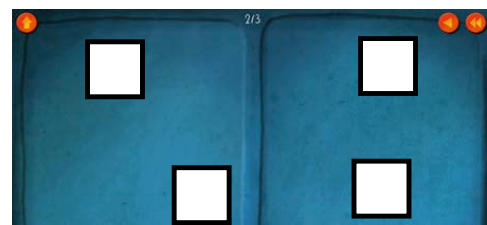
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3



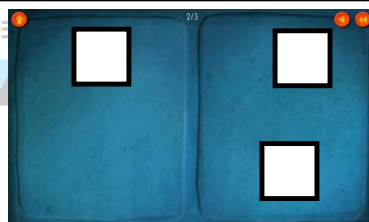
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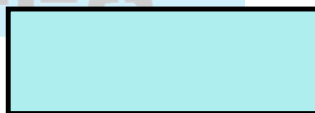
4



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Unit 6 - Multiple Representations of Linear Relationships

LESSON

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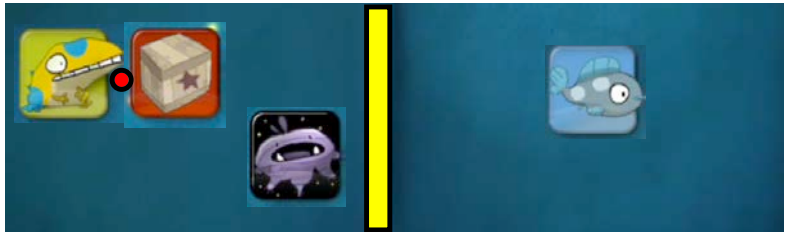
6.2: Steps to Solving Equations

Steps:

1. Get all variable terms on one side of the equation (equal sign) and all constant terms on the other side. **Shortcut – Switch the side means switch the sign.**
2. Simplify both sides by adding/subtracting like terms.
3. Divide both sides by the coefficient (the number in front of the variable term).

Task #1: Solve the following equations.

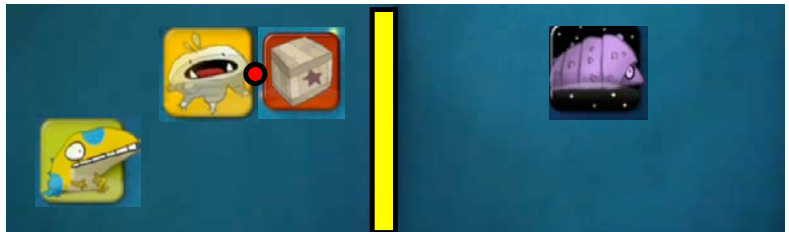
$$3x - 5 = 10$$



$$4x - 3 = 17$$



$$18 + 5m = -57$$



$$12m - 36 = -180$$



TECUMSEH VISTA ACADEMY

MATHLETES

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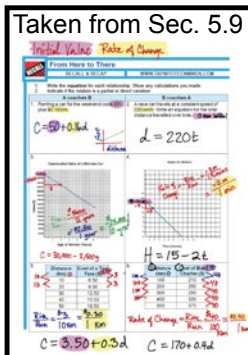
RECALL

Recall Linear Equations From Last Unit

RECALL & RECAP

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Taken from Sec. 5.9



Answer the following questions by solving the equation in each situation.

1. Renting a car for the weekend costs \$50 plus \$0.16/km.

$$C = 50 + 0.16d$$

A small graph showing a line with a positive slope on a coordinate plane. The vertical axis is labeled "Cost" and the horizontal axis is labeled "distance".

a) How much would it cost if you drove 250 km over the weekend?

b) How far could you drive if you could only afford a bill of \$100 total for the weekend?

a) How far would the race car have travelled after a 2.5 hour race at this speed?

2. A race car travels at a constant speed of 220 km/h. Write an equation for the total distance travelled over time. **0 Km initial**

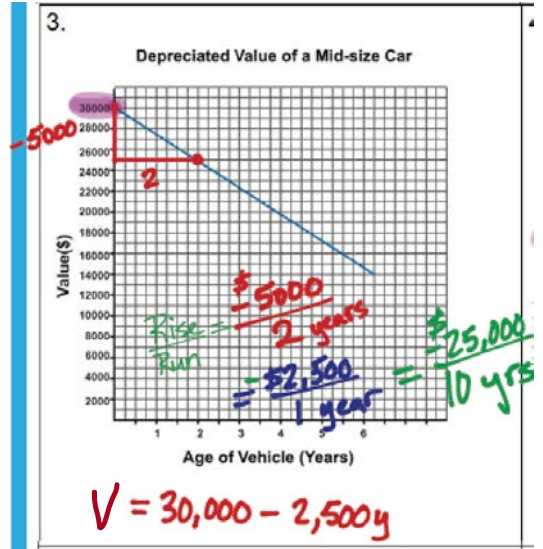
$$d = 220t$$

b) How long would it take for the car to travel 815 km?



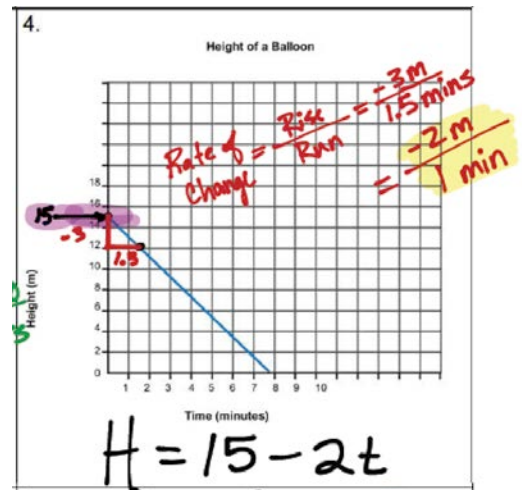
a) How much would the vehicle be worth after 8 years?

b) How old would the vehicle be if the value was \$22,500?



a) How high would the balloon be after 5 minutes?

b) How long would it take for the balloon to drop to 3m high?



a) How much would it cost for a 32 km taxi trip?

5.

Distance (km)	Cost of a Taxi Fare (\$)
10	6.50
20	9.50
30	12.50
40	15.50
50	18.50

$\frac{\text{Rise}}{\text{Run}} = \frac{\$3}{10\text{km}} = \frac{\$0.30}{1\text{km}}$

b) How far could you travel if you had exactly \$50?

$$C = 3.50 + 0.3d$$

a) What would the cost be for a 1,600km trip?

6.

Distance (km)	Cost of Bus Charter (\$)
100	210
200	250
300	290
400	330
500	370

$\text{Rate of Change} = \frac{\text{Rise}}{\text{Run}} = \frac{\$40}{100\text{km}} = \frac{\$0.40}{1\text{km}}$

b) How far could you travel if your budget was \$850?

$$C = 170 + 0.4d$$



Solving Equations (Continued...)

CONSOLIDATION & DEBRIEF

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$$14 = 6 + 2x$$

$$-20 = 4 - 4w$$

$$165 = -11d + 22$$

$$4m + 3 = -73$$

$$-4a + 4 = 0$$

$$3 + 5m = -22$$

6.3: The Equation Game

Solve each equation. Check your answer.

$$3x - 2 = 4$$

$$4x + 1 = -7$$

$$-4 = 2 + 2a$$

$$3 - b = -2$$

$$-4x + 1 = -3$$

$$3t + 6 = 9$$