

## Warm-up Friday April 25

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- A ticket cost \$48 in 2005.
- A ticket cost \$55.50 in 2008.

How much did a ticket cost in 2000?

Express the answer as dollars.cents.



## Warm-up Friday April 22

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Express the answer as dollars.cents.

$(x, y) \rightarrow (\text{years}, \text{cost})$

$(5, 48), (8, 55.50)$

$m = 2.50, (5, 48)$

$y = mx + b$

$48 = 2.50(5) + b$

$48 = 12.50 + b$

$\$35.50 = b$

$$\begin{aligned} m &= \frac{y_2 - y_1}{x_2 - x_1} = \frac{55.50 - 48}{8 - 5} \\ &= \frac{7.50}{3} = 2.50 \\ m &= 2.50 \end{aligned}$$



16 Suppose that a scientist estimates that every square mile of the ocean contains an average of  $4.6 \times 10^4$  pieces of trash. The area of the Earth's surface that is covered by oceans is approximately  $1.2 \times 10^8$  square miles. Using the estimate, how many pieces of trash are in the Earth's oceans?

A  $5.5 \times 10^{12}$

B  $1.2 \times 10^8$

C  $3.4 \times 10^4$

D  $2.6 \times 10^3$



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$$(4.6 \times 10^4)(1.2 \times 10^8)$$

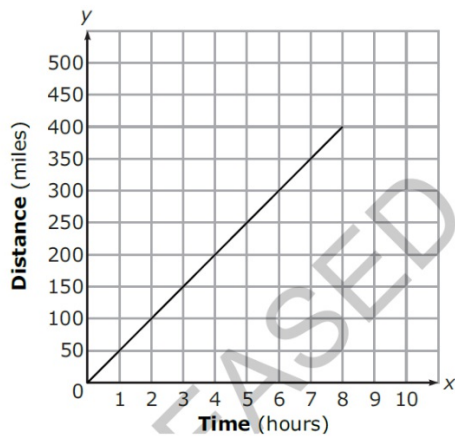
$$5.52 \text{ E } 12$$

$$5.5 \times 10^{12}$$

$$4.6 \text{ E } 4$$



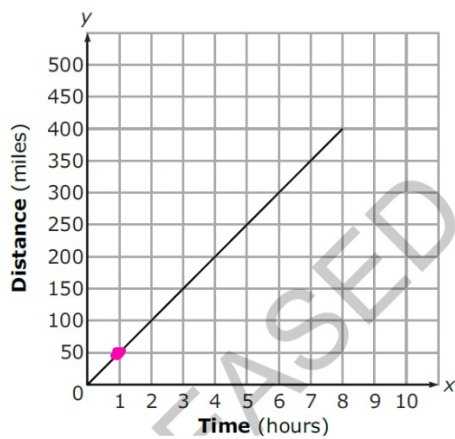
- 17 On Monday, Mr. James made an eight-hour trip to his mother's house in his car. The graph below shows the distance he had traveled at different times.



On Tuesday, he drove home. His speed on Tuesday was 5 miles per hour faster than for the trip on Monday. Which equation would model the distance,  $d$ , that Mr. James had traveled on his return trip after  $t$  hours?

- A  $d = 45t$
- B  $d = 50t$
- C  $d = 55t$
- D  $d = 60t$

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55 mph

18 What value of  $x$  satisfies the equation  $\frac{-4x - 2}{3} = -6$  ?

A -16

B -12

C 0

D 4

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$$\frac{-4x - 2}{3} = -6$$

$$-4x - 2 = -18$$

$$-4x = -16$$

$$x = 4$$





**Homework Check:**  
**Mixed Equations Practice**  
**#2                      #8**

$$\begin{aligned}(1) \quad -52 &= 47 + 9x \\ -99 &= 9x \\ -11 &= x\end{aligned}$$

$$\begin{aligned}(2) \quad -2x - 7(3x + 13) &= 93 \\ -2x - 21x - 91 &= 93 \\ -23x - 91 &= 93 \\ -23x &= 184 \\ x &= -8\end{aligned}$$

$$\begin{aligned}(3) \quad -5(9x - 15) &= 570 \\ 9x - 15 &= -114 \\ 9x &= -99 \\ x &= -11\end{aligned}$$

$$\begin{aligned}(4) \quad 58 - 5x &= -122 + 4x \\ 58 &= -122 + 9x \\ 180 &= 9x \\ 20 &= x\end{aligned}$$

$$\begin{aligned}(5) \quad 95 &= 7x - 6(-4x + 10) \\ 95 &= 7x + 24x - 60 \\ 95 &= 31x - 60 \\ 155 &= 31x \\ 5 &= x\end{aligned}$$

$$\begin{aligned}(6) \quad 52 &= -5x - 2(x + 16) \\ 52 &= -5x - 2x - 32 \\ 52 &= -7x - 32 \\ 84 &= -7x \\ -12 &= x\end{aligned}$$

$$(7) \quad \frac{-5x + 11}{-6} = -6$$
$$-5x + 11 = 36$$
$$-5x = 25$$
$$x = -5$$

$$(8) \quad \frac{7x - 18}{-5} = 12$$
$$7x - 18 = -60$$
$$7x = -42$$
$$x = -6$$

$$(9) \quad -5x + 5(4x + 10) = 125$$
$$-5x + 20x + 50 = 125$$
$$15x + 50 = 125$$
$$15x = 75$$
$$x = 5$$

$$(10) \quad \frac{-11x - 12}{8} = -18$$
$$-11x - 12 = -144$$
$$-11x = -132$$
$$x = 12$$

To solve word problems with equations, we use the information to write an equation and then solve it.

- 1) The sum of three consecutive even numbers is 66. What is the smallest of these numbers?



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$+2 \quad +2 \quad +2$   
 $\curvearrowright \quad \curvearrowright \quad \curvearrowright$   
2, 4, 6, 8, 10, 12

$x$  - 1<sup>st</sup> even #

$x+2$  - 2<sup>nd</sup> even #

$x+4$  - 3<sup>rd</sup> even #

$$x + x + 2 + x + 4 = 66$$

$$3x + 6 = 66$$

$$3x = 60$$

$$x = 20$$

2) Beth sold half of her comic books and then bought nine more. She now has 28. With how many did she begin?



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$x$  - comics Beth started with

$$\frac{1}{2}x + 9 = 28$$

$$\frac{1}{2}x = 19$$


$$\frac{2}{1} \cdot \frac{1}{2}x = 19 \cdot 2$$

$$x = 38$$

6) A wise man once said, "400 reduced by 3 times my age is 163." What is his age?





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$x$  - his age

$$400 - 3x = 163$$

$$-3x = -237$$

$$x = 79$$

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$x$  - hours bike is rented

$$18 + 5x = 48$$

$$5x = 30$$

$$x = 6$$

Classwork: Go to this blendspace to practice with solving equations playing these games.

[tinyurl.com/SCMSequationspractice](https://tinyurl.com/SCMSequationspractice)

Homework: Choice Board Formal Project due on Friday  
Box 2 on blendspace the even problems from the worksheet is your homework. Make sure you have the original problem, define the variable, write an equation and solve the equation.