

Grab Warm Ups & Word Problem Notes
WEEK 8

Solve each equation.

1) $3(x - 4) + 2x = 5(x - 1) + 10x$

$$\begin{array}{r} 3x - 12 + 2x = 5x - 5 + 10x \\ 5x - 12 = 15x - 5 \\ \underline{-5x} \qquad \underline{-5x} \\ -12 = 10x - 5 \\ \qquad \underline{+5} \qquad \underline{+5} \\ -7 = 10x \\ \qquad \underline{10} \qquad \underline{10} \\ X = -\frac{7}{10} \end{array}$$

2) $8x - 4 = 2 - x + 3$

$$\begin{array}{r} 8x - 4 = 5 - x \\ \underline{+x} \qquad \underline{+x} \\ 9x - 4 = 5 \\ \qquad \underline{+4} \qquad \underline{+4} \\ 9x = 9 \\ \qquad \underline{9} \qquad \underline{9} \\ X = 1 \end{array}$$

3.4-3.5 Quiz

Was out of 28pts

**If you earned less than 17, you Need to Retake*

Ask me for a **pass to the **MATH LAB Today***

A - 25.5

B - 22.5

C - 20

Ch.3 Test will be THIS WEEK

***Probably on THURSDAY**

**MISSING WORK will be DUE*

**Make sure you ASK QUESTIONS if you need help on anything from this chapter*

Word Problems wkst (Sarah)

*On Doc Camera

Notes

Writing expressions in $mx + b$ form.

Total Amt \rightarrow $y = mx + b$ begin
 rate \rightarrow m
 x \rightarrow each

Name
Mr. 3

Write the expression for each situation.

1. Sarah decided she wanted to start a savings account. She opened her account with \$50 and will put in \$15 each week. Write an expression for the amount of money in the account after w weeks.

$$y = 15x + 50$$

2. Cambridge Credit Union charges a \$10 service charge plus an additional \$0.10 per check written to have a checking account with them. Write an expression for the monthly charge of having a checking account with c checks written.

$$y = 0.10x + 10$$

3. The flood waters reached a level of 27 feet above normal. When the water started to recede, it went down 3 feet per day. Write an expression for the water level after d days.

$$y = -3x + 27$$

4. Will decided to go on a diet. He currently weighs 190 pounds. He intends to lose 2 pounds per week. Write an expression to represent Will's weight after w weeks.

$$y = -2x + 190$$

5. ABC Wireless charges a monthly fee of \$40 plus an additional \$0.01 per minute to use a cell phone. Write an expression for the monthly cost of using a cell phone for m minutes.

$$y = 0.01x + 40$$

6. The sporting goods store charges \$15 for a trophy. It also charges \$0.10 for each letter engraved on the trophy. Write an expression for the cost of buying a trophy and having g letters engraved on it.

$$y = 0.10x + 15$$

Rate Word Problems
Algebra 3.5

1. Sue earns \$6 per hour plus an additional \$100 in a month. Write an expression to represent her pay if she works h hours in a month.

$$y = 6x + 100$$

(Handwritten notes: 'y' is circled, '6x' has an arrow pointing to 'x' labeled 'hrs', and '100' has an arrow pointing to it labeled '100')

2. If Sue is trying to save for a stereo priced at \$460, how many hours does she need to work to save that much money?

$$\begin{array}{r} 460 = 6x + 100 \\ -100 \quad -100 \\ \hline 360 = 6x \\ \frac{360}{6} = \frac{6x}{6} \end{array}$$

$$x = 60$$

60 hours

3. A health club has two payment plans. You can become a member by paying a \$10 new member fee and use the gym for \$5 per visit. Or, you can use the gym as a nonmember for \$7 per visit. Write an expression to represent the cost of being a member for v visits, and write an equation for the cost of being a nonmember for v visits.

Member $y = 5x + 10$ Nonmember $y = 7x + 0$
 $y = 7x$

Compare the costs of the two payment plans. In other words, how many visits to the gym would be necessary for the two plans to cost the same? For how many visits is the nonmember plan cheaper? For how many visits is the member plan cheaper?

$$\begin{array}{r} 5x + 10 = 7x \\ -5x \quad -5x \\ \hline 10 = 2x \\ \frac{10}{2} = \frac{2x}{2} \end{array} \quad x = 5 \text{ visits}$$

Equal for 5 visits.
Member plan cheaper for > 5 visits.
Nonmember plan cheaper for < 5 visits.

4. A rental store will rent a bobcat for \$18 per hour with a \$20 rental fee, or it can be rented for the whole day for \$110. Write an expression to represent the cost of renting it for h hours, and write an equation for the cost of renting it for the whole day.

By the hour $y = 18x + 20$

For the day $y = 110$

Compare the two plans. Find out how many hours are needed for the costs to be the same. For how many hours is the "by the hour" deal cheaper? For how many hours is the "for the day" deal cheaper?

$$18x + 20 = 110$$

Equal for 0 hours.

By the hour cheaper for < 0 hours.

For the day cheaper for > 0 hours.

$x =$

HOMework

Finish the wkst