

August 26, 2015

Standards Review:



Solve each problem using dimensional analysis. Every number must have a unit. Work must be shown.

1. How many miles will a person run during a 10 kilometer race?
2. The moon is 250,000 miles away. How many feet is it from earth?

Aug 7-2:05 PM



Today's CCGPS Standards



MGSE9-12.A.CED1 Create equations and inequalities in one -variable and use them to solve problems. Include equations arising from linear and exponential functions.

Apr 24-12:33 PM



Creating Equations from Context



1. Read the problem statement first.
2. Reread the scenario and make a list of the known quantities.
3. Read the statement again and look for the unknown.
4. Create expressions and inequalities from the known quantities.

Apr 24-12:33 PM

James earns \$15 per hour as a teller at a bank. In one week he pays 17% of his earnings in state and federal taxes. His take-home pay for the week is \$460.65. How many hours did James work?



✓ 1. Read the statement carefully.



✓ 2. Reread the scenario and make a list of the known quantities.

James earns \$15 per hr
 James pays 17% of his earning in taxes.
 His pay for the week is \$460.65.



✓ 3. Read the statement again and look for the unknown variable.

The scenario asks for how many hours. The unknown variable is hours.

4. Create expressions and inequalities from the known quantities and variables.

James pay for the week was 460.65
 If he earns \$15 an hour and h represents hours, then his total pay is 15h
 Now, deduct 17% of his pay in taxes. .17(15h)
 Putting it all together: 12.45h = \$460.65 = 37 hrs

Aug 3-10:01 AM

Brianna has saved \$600 to buy a new TV. If the TV she wants costs \$1,800 and she saves \$20 a week, how many years will it take her to buy the TV?

✓ 1. Read the statement carefully.

✓ 2. Reread the scenario and make a list of the known quantities.
 The TV costs 1800.
 Brianna saved 600.
 Brianna saves 20 per week.

3. Read the statement again and look for the unknown variable.
 The scenario asks for years but the quantity is given in terms of weeks. The variable to solve for first is w weeks

4. Create expressions and inequalities from the known quantities and variables. Brianna needs to reach 1800.
 Brianna has saved \$600 so far and has to save more to reach her goal. $600 + 20w = 1800$
 She is saving \$20 a week for some unknown number of weeks to reach her goal. Let x represent the number of weeks.
 Putting it all together:

Aug 4-7:23 AM

If we solve $600 + 20x = 1800$, we get that Brianna will need 60 weeks to save for her TV. The problem statement asks for the number of years it will take Brianna to save for the TV. Convert to the appropriate units.

$$\begin{array}{r}
 \cancel{600} + 20x = 1800 \\
 -600 \quad -600 \\
 \hline
 20x = 1200 \\
 \frac{20x}{20} = \frac{1200}{20}
 \end{array}$$

$$\begin{array}{l}
 60 \times \frac{1}{52} = 1.2y \\
 x = 60 \text{ wks}
 \end{array}$$

Aug 17-8:19 AM

Consecutive Number Problems

- If the numbers are consecutive use:
- 1st number = x
- 2nd number = $x + 1$
- 3rd number = $x + 2$
- etc

Aug 5-5:32 PM

Consecutive Number Problems

- If the numbers are consecutive **ODD/EVEN**:
- 1st number = x
- 2nd number = $x + 2$
- 3rd number = $x + 4$
- etc

Aug 5-6:56 PM

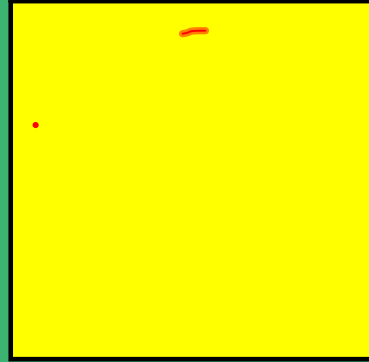
Example 1

- The sum of 3 consecutive even numbers add up to 1002. Find the three numbers

$$X + (X+2) + (X+4) =$$

$$X + X + X + 2 + 4$$

$$3X + 6 = 1002$$



Aug 5-5:46 PM

Example 2

- The sum of 4 consecutive numbers add up to 4810. Find the four numbers.

$$X + (X+1) + (X+2) + (X+3)$$

$$X + X + X + X + 6$$

$$4X + 6 = 4810$$

$$\begin{array}{r} -6 \quad -6 \\ 4X = 4804 \end{array}$$

1st 1201 ✓

2nd 1202 ✓

3rd 1203 ✓

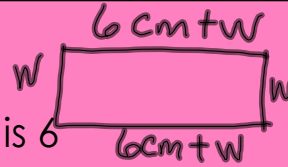
4th 1204 ✓

1201

Aug 5-5:46 PM

Example 3

- The length of a rectangle is 6 cm. more than the width. The perimeter is 32 cm. Find the dimensions.



$$(6+w) + (6+w) + w + w = 32$$

$$12 + 4w = 32$$



$$-12 \quad -12$$

$$\frac{4w}{4} = \frac{20}{4}$$

width = 5
length = 6 + 5 = 11

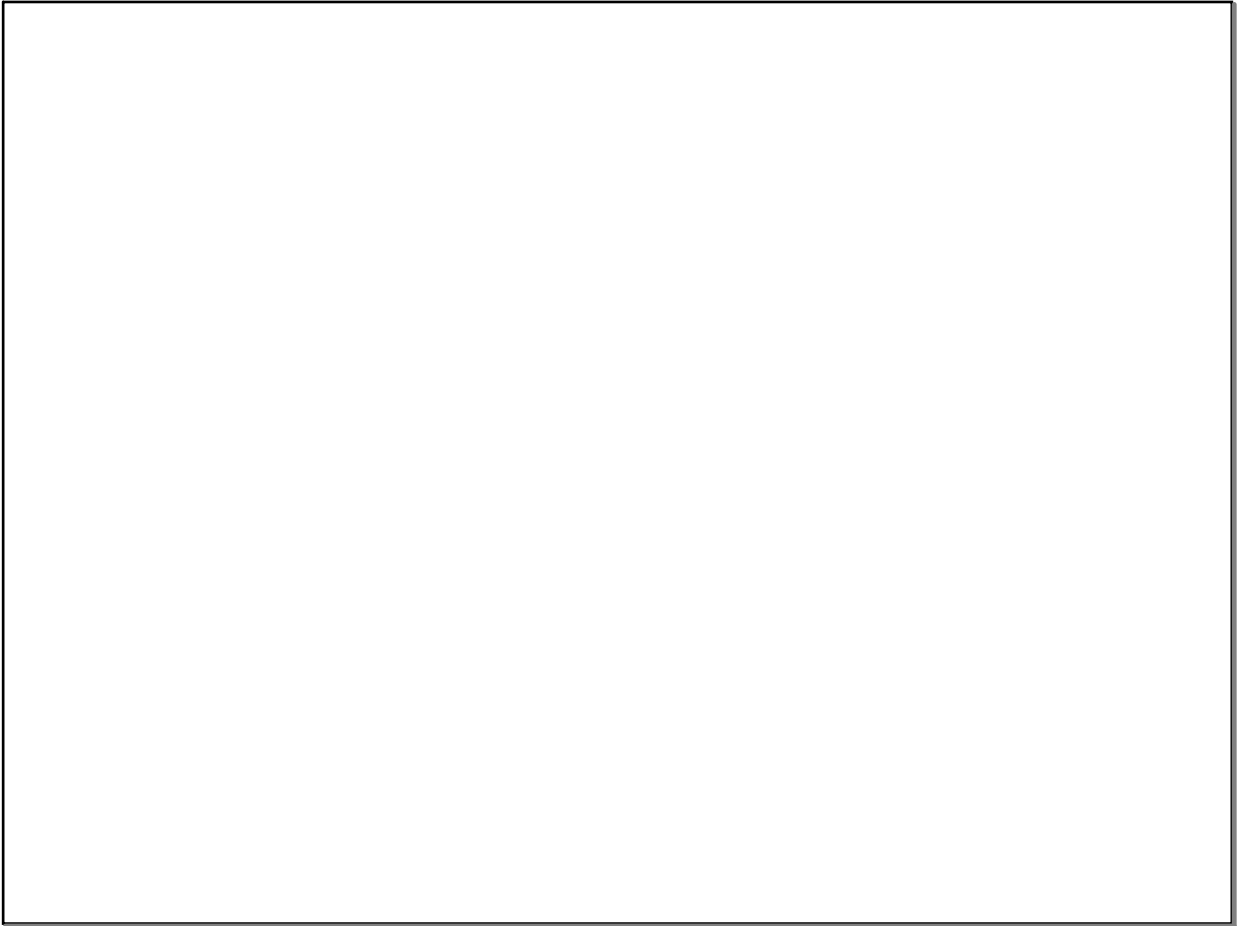
$$x + 0.09x + 2 \leq 50$$

Aug 17-9:26 AM



Complete Practice
handout
for
Homework!

Aug 5-5:59 PM



Aug 26-7:09 AM