

OPTIONAL

Name: _____ 6th Grade Review

Show ALL work to get extra credit!

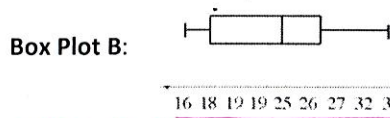
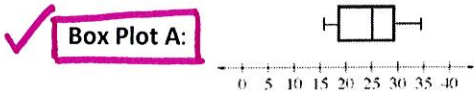
Due: Thursday, 4/25

Directions: Your math test(s) start Thursday, 4/25. Use the problems on this page to help you practice (help is on weebly website!)

1. Lucy and Marissa each designed a box plot to represent this data set: 16 18 19 19 25 26 27 32 35
Their plots are shown in part (a) below.

Already in order!

a) Determine which box plot is correct. Then, explain the mistakes in the incorrect plot.



Box Plot B is incorrect because it's number line is done wrong.

Key Concept: Statistics

b) Determine the first and third quartiles, the median, and the Interquartile Range (IQR) for this data set.

16 18 } 19 19 } 25 } 26 27 } 32 35

Median = 25
LQ = 18.5 IQR = $\frac{29.5 - 18.5}{11.0} = 11$
LQ = 29.5

Key Concept: Rates (Giant One)

2. Dawn drove 420 miles in 6 hours on a rural interstate highway. If she maintains the same speed, how far can she go in 7.5 hours? Use a table, giant one and/or unit rate to help you solve.

mi	hrs.
420	6
210	3
70	1
35	0.5

6 hrs + 1 hr + 0.5 hr
420 + 70 + 35
490 + 35
525 mi

3. a) Use the Distributive Property to simplify the expression. Remember to combine like terms and follow the order of operations. Hint: think "6 groups of 2-3y"

$$6(2 + 3y) - 2y + 2 = 12 + 2 + 18y - 2y$$

$$14 + 16y$$

b) Evaluate the expression if $y=2$

$$14 + 16(2) = 14 + 32 = 46$$

Key Concept: Expressions

4. Examine the snack-mix recipes described below.

Key Concept: Number System

a) Calculate the portion (part) of each mix below that is chocolate chips, expressing your answer as a fraction and a percent.

Hint: Find the total number of cups first.

A: $\frac{3}{10} = \frac{30}{100} = 30\%$

B: $\frac{5}{20} = \frac{25}{100} = 25\%$

Recipe A:

Recipe B:

Recipe C:

3 cups Choc. Chips
2 cups Peanuts
2 cups Raisins
2 cups Cashews
1 cup of Coconut

5 cups Choc. Chips
7 cups Peanuts
4 cups Raisins
2 cups Cashews
1 cups Coconuts
1 cups Almonds

6 cups Choc. Chips
7 cups Peanuts
5 cups Raisins
2 cups Cashews
2 cups Coconuts
3 cups Almonds

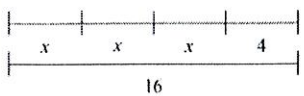
b) Which recipe has the greatest concentration of chocolate chips? List the recipes in order from highest chocolate chips to least chocolate chips.

A, B, C

C: $\frac{6}{25} = \frac{24}{100} = 24\%$

30%, 25%, 24%

5. Write and solve an equation based on the diagram below.



$$3x + 4 = 16$$

$$3x = 12$$

$$x = 4$$

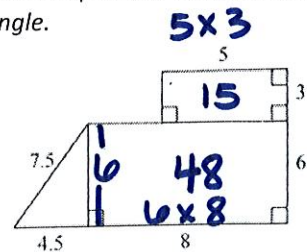
Key Concept: Equations

6. Find the area of the shape below. Show all steps. Hint: Think carefully about the formula for the area of a triangle.

$$\Delta = \frac{1}{2} \times 6 \times 4.5$$

$$\Delta = 3 \times 4.5$$

$$\Delta = 3 \left[\begin{array}{|c|c|} \hline 120 & 15 \\ \hline \end{array} \right] = 135$$



$$15 + 48 + 13.5$$

$$63 + 13.5$$

$$76.5u^2$$

$$\begin{array}{r} 63.0 \\ + 13.5 \\ \hline 76.5 \end{array}$$