Pre-Algebra Chapter 3 Pre-Test

1.) (5 points each, 10 points total) (3-1) Estimate using clustering technique. Clearly demonstrate clustering and write down the rounded answer. **Do not use a decimal in your answer!**

a) 12.3 + 11.1 + 12.9 + 13.2 + 10.7

1 2 3 4 5

$$\begin{array}{r} 12 \\ \times\ 5 \\ \hline \boxed{60} \end{array}$$

b) 24.2 + 25.7 + 26.1 + 24.8 + 24.4

1 2 3 4 5

$$\begin{array}{r} 25 \\ \times\ 5 \\ \hline \boxed{125} \end{array}$$

2.) (5 points each, 10 points total) (3-2) Estimate. Clearly demonstrate your rounded work and write down the rounded answer. **Do not use a decimal in your answer!**

a) 95.4 ÷ 15.8

96 ÷ 16 = $\boxed{6}$

b) 26.2 × 11.5

26 × 12 = $\boxed{312}$

25 * 12 = 300

average ↓ most frequent number ↓

3.) (5 points each, 15 points total) (3-3) Find the mean, median, and mode of each set.

↑ middle

1, 1, 2, 2, 2

2

a) 8, 13, 12, 7, 9, 12

{ ~~7~~, ~~8~~, $\boxed{9, 12}$, ~~12~~, ~~13~~

Mean: $\frac{7+8+9+12+12+13}{6} = \frac{61}{6} = 10.1\overline{6} \approx \boxed{10.2}$

median

$\frac{9+12}{2} = \frac{21}{2} = \boxed{10.5}$

mode = $\boxed{12}$

b) 21, 32, 26, 30, 27

c) 45, 56, 52, 48, 49, 56

4.) (5 points each, 10 points total) (3-4) Use the given formula to solve.

An Uber fare is determined by the following formula:

$1.25m = 1.25 * m$

C = 1.25m + 2.75

↑

With C equal to the cost of the fare and m represents the number of miles. How much would each of the following fares be?

a) $\boxed{m = 24}$

$C = 1.25m + 2.75$

$1.25(24) + 2.75$

$30.00 + 2.75 = \boxed{32.75}$

b) m = 15

$1.25(15) + 2.75$

$18.75 + 2.75 = \boxed{21.50}$

5.) (5 points each, 55 points total) (3-5 & 3-6) Solve. While you may use a calculator, **<u>you must show all work.</u>**

a) 9.36 + k = 14.8

−9.36 −9.36

$\boxed{k = 5.44}$

b) 3.8 = n - 3.62

+3.62 +3.62

$\boxed{n = 7.42}$

c) x + 82.7 = 63.5

−82.7 −82.7

$\boxed{x = -19.2}$

d) -4.095 + b = 18.665

+4.095 +4.095

$\boxed{22.76}$

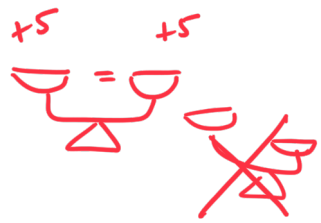
e) y - 15.48 = -22.39

f) $\left(\frac{p}{2.9}\right)2.9 = (0.55)2.9$ $= \boxed{1.595}$

g) $\frac{-9k}{-9} = \frac{2.34}{-9}$ $\boxed{k = -0.26}$

h) $\frac{1.5m}{1.5} = \frac{3.03}{1.5}$

$\boxed{m = 2.02}$



i) $\left(\frac{a}{27}\right)27 = (-32.3)(27)$

$\boxed{a = -872.1}$

j) $7.2x = 61.2$

k) $277.4 = \frac{n}{3.5}$