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

Round each number to : 12

12 * 5 = $\boxed{60}$

b) 24.2 + 25.7 + 26.1 + 24.8 + 24.4

1 2 3 4 5

Round each number to : 25

25 * 5 = $\boxed{125}$

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

Always round smaller number first in division

96 ÷ 16 ← locked in. Now, we find the closest multiple to 95.4

$\boxed{6}$

No!!

26.2
× 11.5
301.3
$\boxed{301}$

b) 26.2 × 11.5

26 * 12 = 312

26.2 * 11.5

25 * 12 = 300

Either are correct

26.2 × 11.5

25 × 10 = 250

-1

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

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

First: order 7, 8, $\boxed{9, 12}$, 12, 13

Mean – average $\frac{7+8+9+12+12+13}{6} = \frac{61}{6} \approx \boxed{10.2}$

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

Mode: $\boxed{12}$ most frequent

b) 21, 32, 26, 30, 27

1st order – 21, 26, $\boxed{27}$, 30, 32

Median: 27

Mode: none

Mean – $\frac{21+26+27+30+32}{5} = \boxed{27.2}$

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

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

An Uber fare is determined by the following formula:

$$\boxed{C = 1.25m + 2.75}$$

$C = 1.25 * m + 2.75$

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) m = 24

$1.25m + 2.75$

$1.25(24) + 2.75$

$30 + 2.75 = \boxed{\$32.75}$

b) m = 15

$1.25m + 2.75$

$1.25(15) + 2.75$

$18.75 + 2.75 = \boxed{21.50}$

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

4pts

a) 9.36 + k = 14.8

$+$

$-9.36 \quad -9.36$

$\boxed{k = 5.44}$

Commutative

$k + 9.36 = 14.8$

$-9.36 \quad -9.36$

b) 3.8 = n - 3.62

$+3.62 \quad +3.62$

$\boxed{7.42 = n}$

do the opposite

c) x + 82.7 = 63.5

$- \; +$

$+ \; -$

$-82.7 \quad -82.7$

$\boxed{x = -19.2}$

No rounding!

d) -4.095 + b = 18.665

$-4.095 + b = 18.665$

$-(-4.095) \quad -(-4.095)$

$-$

$+$

$-4.095 + b = 18.665$

$+4.095 \quad +4.095$

$\boxed{b = 22.76}$

e) y - 15.48 = -22.39

$+15.48 \quad +15.48$

$\boxed{y = -6.91}$

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

$\boxed{p = 1.595}$

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

$\boxed{a = -872.1}$

j) $\frac{7.2x}{7.2} = \frac{61.2}{7.2}$

$\boxed{x = 8.5}$

k) $3.5(277.4) = \left(\frac{n}{3.5}\right)3.5$

$\boxed{970.9 = n}$