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

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 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

96 ÷ 16 = $\boxed{6}$

Always round smaller number first.

16, 32, 48, 64, 80, 96, 112, 128...

1 2 3 4 5 6

b) 26.2 × 11.5

26 * 11 = 286 ✓

26.2 × 11.5

25 × 12 = 300

26.2 × 11.5

26 × 12 = 312 ✓

26.2
11.5
131 0
2620
26200
301.30 = 301

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

First: Order

7, 8, 9, 12, 12, 13

Mean- Average

Median-Middle

Mode - Frequent

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

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

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

Mode: $\boxed{12}$

b) 21, 32, 26, 30, 27

Order:

21, 26, 27, 30, 32

Mean: $\frac{21+26+27+30+32}{5} = \frac{136}{5}$ $\boxed{27.2}$

Median: 21, 26, 27, 30, 32

$\boxed{27}$

Mode: $\boxed{\text{none}}$

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:

$$C = 1.25m + 2.75$$

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) m = 24

$C = 1.25(24) + 2.75$

$30 + 2.75 = \boxed{32.75}$

b) m = 15

$1.25(15) + 2.75$

$18.75 + 2.75 = \boxed{21.5}$

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 4pts

−9.36 −9.36

$\boxed{k = 5.44}$

b) 3.8 = n - 3.62 3.8 = n + (−3.62)

+3.62 +3.62

$\boxed{7.42 = n}$

c) x + 82.7 = 63.5 Do the opposite!

− 82.7 −82.7 No Rounding!

$\boxed{x = -19.2}$

d) -4.095 + b = 18.665 Commutative Property

+4.095 +4.095

$\boxed{b = 22.76}$ −4.095 + b = b + (−4.095)

b − 4.095

e) y - 15.48 = -22.39

+15.48 +15.48

$\boxed{y = -6.91}$

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

$\boxed{p = 1.595}$

$-9 * k$

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

$\boxed{a = -872.1}$

$\frac{a}{27} = -32.3$

$7.2 * x$

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

$\boxed{x = 8.5}$

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

$\boxed{970.9 = n}$

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