Key

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) $12.3 + 11.1 + 12.9 + 13.2 + 10.7$
(+0.3, −1.1, +0.9, +1.2, −1.3)

Estimate: 12

5 numbers

$12 * 5 = \boxed{60}$

b) $24.2 + 25.7 + 26.1 + 24.8 + 24.4$
(−0.8, +0.7, +1.1, −0.2, −0.6)

Estimate: 25

5 numbers

$25 * 5 = \boxed{125}$

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) $95.4 \div 15.8$

$\approx 96 \quad \approx 16$

$96 \div 16 = \boxed{\approx 6}$

b) 26.2×11.5

$\approx 25 \quad \approx 12$

$25 * 12 \approx \boxed{300}$

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 number set, so take average of middle 2

Order: 7, 8, 9, 12, 12, 13

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

Median (Middle) $\frac{9+12}{2} = \frac{21}{2} = \boxed{10.5}$ Mode = $\boxed{12}$

b) 21, 32, 26, 30, 27

Order: 21, 26, 27, 30, 32

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

Median = $\boxed{27}$ Mode = $\boxed{\text{none}}$

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

Order: 45, 48, 49, 52, 56, 56

Mean: $\frac{45+48+49+52+56+56}{6} = \frac{306}{6} = \boxed{51}$

Median: $\frac{49+52}{2} = \frac{101}{2} = \boxed{50.5}$ mode: $\boxed{56}$

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 $1.25(24) + 2.75$

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

b) m = 15 $1.25(15) + 2.75$

$18.75 + 2.75 = \boxed{\$21.50}$

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

a) $9.36 + k = 14.8$

$-9.36 \quad -9.36$

$k = 14.8 - 9.36$

$\boxed{k = 5.44}$

b) $3.8 = n - 3.62$

$+3.62 \quad +3.62$

$n = 3.8 + 3.62$

$n = \boxed{7.42}$

c) $x + 82.7 = 63.5$

$-82.7 \quad -82.7$

$x = 63.5 - 82.7$

$x = \boxed{-19.2}$

d) $-4.095 + b = 18.665$

$+4.095 \quad +4.095$

$b = 18.665 + 4.095$

$b = \boxed{22.76}$

e) $y - 15.48 = -22.39$

$+15.48 \quad +15.48$

$y = -22.39 + 15.48$

$y = \boxed{-6.91}$

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

$p = 0.55 * 2.9$

$p = 1.595$

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

$k = \frac{2.34}{-9} = -0.26$

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

$m = \frac{3.03}{1.5} = 2.02$

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

$a = -32.3 * 27 = -872.1$

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

$x = \frac{61.2}{7.2} = 8.5$

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

$n = 277.4 * 3.5$

$n = 970.9$