

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

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:

$$C = 1.25m + 2.75$$

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)  $m = 24$

$$C = 1.25m + 2.75$$
$$1.25(24) + 2.75$$

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

b)  $m = 15$

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

a)  $9.36 + k = 14.8$

$-9.36 \quad -9.36$

$k = 14.8 - 9.36$

$k = 5.44$

$$\begin{array}{r} 14.80 \\ - 9.36 \\ \hline 5.44 \end{array}$$

b)  $3.8 = n - 3.62$

$+3.62 \quad +3.62$

$n = 3.8 + 3.62$

$n = 7.42$

$$\begin{array}{r} 3.80 \\ + 3.62 \\ \hline 7.42 \end{array}$$

c)  $x + 82.7 = 63.5$

d)  $-4.095 + b = 18.665$

e)  $y - 15.48 = -22.39$


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

$$p = (0.55)(2.9)$$

$$\boxed{p = 1.595}$$

$\begin{array}{r} 4 \\ 2.90 \\ \underline{0.55} \\ 1450 \\ +14500 \\ \hline 15950 \end{array}$ 
 2+2=4

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

$$\boxed{k = -0.26}$$


h)  $1.5m = 3.03$

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

j)  $7.2x = 61.2$

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

## Divisibility Rules

Rule of 2: If a number ends in 0, 2, 4, 6, 8  
it is evenly divisible by 2

Rule of 5: If a number ends in 0, 5  
it is evenly divisible by 5

Rule of 10: If a number ends in 0  
it is evenly divisible by 10

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Rule of 3: If the sum of the digits in a  
number is evenly divisible by 3,  
then the number itself is evenly  
divisible by 3.

$$18 : 1 + 8 = 9$$

↑ divisible by 3      ↑ divisible by 3

$$372 : 3 + 7 + 2 = 12$$

↑ divisible by 3

$$12 : 1 + 2 = 3$$

↑ divisible by 3

$$87, 368, 124$$

$$8 + 7 + 3 + 6 + 8 + 1 + 2 + 4$$

15   18   24   32   33   35   39

$$39 : 3 + 9 = 12$$
$$12 : 1 + 2 = 3$$

Rule of 9: If the sum of the digits in a number is evenly divisible by 9, then the number is evenly divisible

by 9

$$361,827 : \begin{array}{cccccc} 3+6+1+8+2+7 & & & & & \\ \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \\ 9 & 10 & 18 & 20 & 27 & \end{array}$$

$$27 : 2+7=9$$

what value makes this evenly divisible by 9?

$$7,35 \boxed{\uparrow}, 280,979$$

$$7+3+5+2+8+0+9+7+9 = 50$$

$$50 \rightarrow 54$$

$$5 + \underline{4} = 9$$

(4)

Find the factors of 78

R2:  $2 * 39$

If ends in 0, 2, 4, 6, 8, then factor out 4

R3:  $3 * 26$

If R2 or R3 apply, then it is divisible by 6 ( $2 * 3$ )

$6 * 13$

~~R5: no~~

~~R10: no~~

~~R9: no~~

$7+8=15$   
 $15: 1+5=6$

$$\begin{array}{r} 26 \\ 3 \overline{)78} \\ \underline{-6} \phantom{0} \\ 18 \\ \underline{-18} \\ 0 \end{array}$$

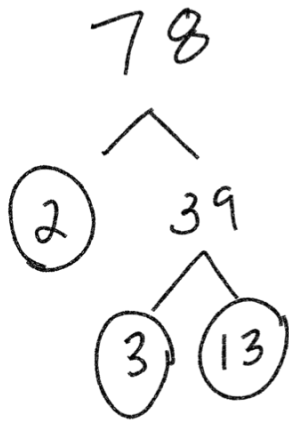
Factors of 78

$1 * 78$      $3 * 26$   
 $2 * 39$      $6 * 13$

78 1, 2, 3, 6, 13, 26, 39, 78

$7+8=15$

# Prime Factorization



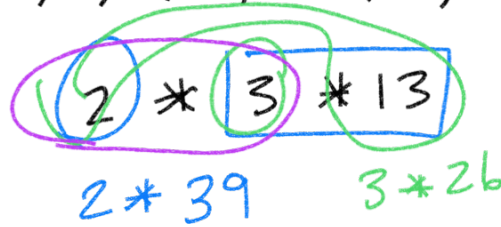
Prime factorization of 78

$$2 * 3 * 13$$

# Prime Number

Number that has no other factor other than 1 and itself

2, 3, 5, 7, 11, 13, 17, 19, 23, 29, ...

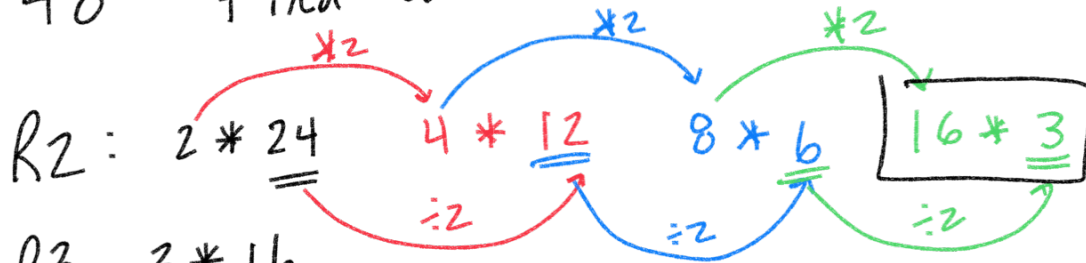


$$2 * 39$$

$$3 * 26$$

$$6 * 13$$

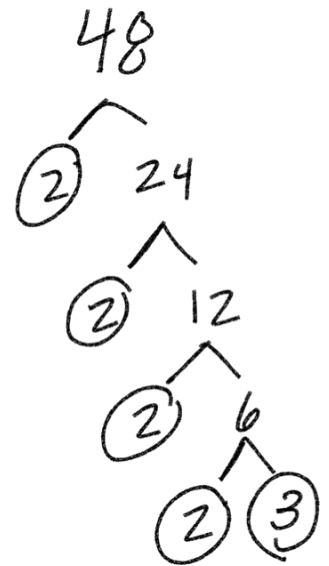
48 Find the factors and Prime Factorization



R2:  $2 * 24$   
R3:  $3 * 16$

$$4 + 8 = 12 \leftarrow 3^v$$

$$4 + 8 = 12 \leftarrow \cancel{3}$$



~~R5~~

~~R9~~

~~R10~~

$$1 * 48, 2 * 24, 3 * 16, 4 * 12, 6 * 8$$

- $1, 2, 3, 4, 6, 8, 12, 16, 24, 48$

$$2^1 * 2^2 * 2^3 * 2^4 = 2^4 * 3$$

base      exponent

Prime Factorization:  $2 * 2 * 2 * 2 * 3$

$2^4$ 

$2^4 * 3$