Volume of a Cylinder:

3.14 x 27

V = 28.26

Volume of a Sphere:

V = pi x r2 x h

V = 3.14 x 9 x 5

V = 47.1

V(total) = 75.36

Store A:

8 apples for $4.40

32 apples for 17.60

30 apples is the price of 32 apples subtract 2 apples (4.40 / 4)

4.40 / 2 = 1.10

17.60 – 2.20 = 15.40

Store B:

12 apples for $5.76

It is 0.48/apple at Store B.

30 apples is 14.40

15

Volume of a Cube:

= l x w x h

14 x 14 x 18

= 3528

Volume of a Cone:

= pi x radius squared x height divided by 2

= 3.14 x 49 x 10

= 1538.60

3528 + 1538.6

20 x 8 = 160 x 0.4

12.50 x 0.16

14.50

=750.

16 x 11 x 3.14

Store A sells 12 pears for 6.48

12 x 5

= 60

6.48 x 5 (12 x 5)

= 32.40

Store B sells 5 pears for 2.65

5 x 12

2.65 x 12 (5 x 12)

= 31.80

V = 2 x pi x r cubed divided by 3 + pi x r squared x height

2 x 3.14 x 27 + 3.14 x 9 x 5

= 169.56 + 141.3

P-Doggs Theorem:

a2 + b2 = c2

6 x 6 + 6 x 6 = 10 x 10

36 + 36 = 100

Understanding the Problem:

Find volume of empty space

To find volume of empty space:

To solve problem:

I must take the volume of a cube and subtract the volume of a cube:

V = l x w x h – 4 x pi x r cubed divided by 3.

V = 8 x 8 x 8 – 4 x 3.14 x 64 / 3

V = 512 – 267.95

V = 244.05

Understanding the Problem:

Determine the area of this shape

To solve problem:

2 areas required to solve this problem: a triangle and a semicircle.

A = b x h / 2 + pi x r squared / 2.

A = 16 x 12 / 2 + 3.14 x 64 / 2

A = 96 + 100.48

A = 196.48

Store A: 90.5 cents per pound.

Store B: 88.3 cents per pound.

David’s Wage: 12.75/hr.

Vanessa’s Wage: 13.00

Bettina’s Wage: approx. 13.30/hr. (13.29/hr.)

Angelo’s Wage: 13.42/hr.

Deal #1: 1.25/L

Deal #2: 1.30/L

Deal #3: 1.50/L

Deal #1: 1.17/L

Deal #2: 1.20/L

Deal #3: 1.25/L

107 / 5 = 21.4 km/h of charging time.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Rectangle Letter | Length | Width | Area | Perimeter |
| A | 4 m | 4 m | 16 m | 16 m |
| B | 6 m | 2 m | 12 m | 16 m |
| C | 1 m | 7 m | 7 m | 16 m |
| D | 5 m | 3 m | 15 m | 16 m |
| Rectangle Number | Length | Width | Area | Perimeter |
| 1 | 4 cm | 4 cm | 16 cm | 16 cm |
| 2 | 8 cm | 2 cm | 16 cm | 20 cm |
| 3 | 5 cm | 3 cm | 15 cm | 16 cm |
| 4 | 6 cm | 2 cm | 12 cm | 16 cm |

42/7 = 630/x

42 \* x = 630 x 7

42x/42 = 4410/42

x=105

127/8 = 84/x

127 \* x = 84 x 8

127x/127 = 672/127

x=5

3/5 = x/15

5 \* x = 15 x 3

5x/5 = 45/5

x=9

¼ = x/20

4x/4 = 20/4

x=5

9.50/250 = 0.038 (0.04)

1.00 = 1/0.6663

1 x 218 = 218/218 x 0.66

218/0.66

Unit Rates

315/20 = 15.75

David’s earnings:

534.25/35 = 15.26/hr

Vanessa’s earnings:

16.00

Bettina’s Wage:

376.95/23 = 16.39/hr.

Angelo’s Wage:

289.95/18 = 16.11/hr

Speed

Speed = distance/time

Red Car:

12/6 = 2 km/h

Blue Car:

12/4 = 3 km/h

Green Car:

8/4 = 2 km/h

Red Car:

|  |  |
| --- | --- |
| Time (hr.) | Distance (km) |
| 0 | 0 |
| 1 | 5 |
| 2 | 10 |

Red car is traveling at 5 km/h

Blue Car:

|  |  |
| --- | --- |
| Time (hr.) | Distance (km) |
| 0 | 0 |
| 2 | 8 |
| 4 | 16 |

Blue car is traveling at 4 km/h

Green Car:

|  |  |
| --- | --- |
| Time (hr.) | Distance (km) |
| 0 | 0 |
| 3 | 9 |
| 6 | 18 |

Green car is traveling at 3 km/h

Red Car travels 325 km in 4 hours.

The red car travels at 81.25 km/h.

Blue Car travels 150 km in 8 ½ hours.

The blue car travels at 17.65 km/h.

Green Car travels 350 km in 8 hours.

The green car travels at 43.75 km/h.

Unit Rates

Deal 1 is a 2L carton of orange juice for $2.50

2.50/2

1.25/L.

Deal 2 is a 3L carton of orange juice for $3.50

3.50/3

= 1.17/L.

Deal 3 a 1L carton of orange juice for $1.50

1.50/1

= 1.50/L

Deal 1 is a 3L carton of orange juice for $3.00, which equals 1.00/L

Deal 2 is 1 L for 2.00, equivalent to 0.50/L

Deal 3 is 2 L for 1.00, equivalent to 0.

Ratios

To do this, I need to add the part to part ratio together for a whole ratio.

Then, I take the whole number and divide it by the amount we need.

6 + 1 = 7/637 = 0.01

0.06: 0.01

Measurement Conversions

Vinegar to water:

1 : 5 = x : 7

1/5 = 7/x

1/5 = 7x5/x\*7

1x = 35

x = 35 – 4.5

Distance on a map compared to real life

Kingston to Guelph on a map: 4.5 cm.

1:69 = 4.5/x

1/69 = 4.5/x

1/69\*69 = 4.5\*69/x

4.5\*69 = 310.5

1 : 23 = 11.8/x

1/23 = 11.8/x

1/23 x 23 = 11.8x23/x

11.8\*23 = 271.4

The scale factor is 4, so I need to multiply each side length by 4.

AB = 3 \* 4 = 12

BC = 3 \* 4 = 12

CD = 3 \* 4 = 12

DE = 3.4 \* 4 = 13.6

EA = 3.4 \* 4 = 13.6

Hourly Wages

747/9

=83 x 4

=332

539/7 = 77

77\*6 = 462

Sarah:

576 / 8 = 72

72 x 2 = 144

Bob

400 / 6 = 66.67

66.67 x 2 = 133.34

Unit Rates – Gas per 100 km.

Bob:

9L/100 km.

27.3L/650km.

$40.95 spent on gas.

Sarah:

12.4L/100km.

84.5L/650km.

126.75 spent on gas.

Proportional Reasoning

6:25 = x:150

6\*x = 25:150

6x/6 = 150/6

x= 36

Cindy:

4:20 = x:80

4x/4 = 80/4

x =16

John:

6:20 = x:80

6x/6 = 80/6

x=24

Cindy:

10:50 = x:150

10 x 150/10 = 15

x= 30 x 9 = 270

John:

15:50 = x:150

15 x 150/15 = 10

x= 45 x 9 = 405

Investment Interest

2100 x 0.0237 = 49.77

2100+49.77 = 2149.77

2149.77\*0.0237 = 50.94

2149.77+50.94

1000\*0.325 = 325

100+325=1325

2700\*0.05=135

Discounts

Baby Doll 1:

90\*0.2 = 18

90-18 = 72

72\*0.15 = 10.80

72-10.80= 61.20

Baby Doll 2:

90\*0.35 = 31.5

90-31.50=58.50

Skateboard 1

125.95\*0.4 = 50.38

125.95-50.38 = 75.97

Skateboard 2

169.95 x 0.6 = 101.97

169.95-101.97 = 67.98

156.95\*0.1 = 15.69

156.95-15.69

149.99 x 0.2 = 30

149.99 – 30 = 119.99

119.99 \* 0.12 = 14.40

119.99 + 14.40 = 134.39

189.99 x 0.15 = 28.50

189.99 – 28.50 = 161.49

Fractions to Percent

9/15 = 0.60 (60%)

5/10 = 0.50 (50%)

Also written as ½ = 50%.

46/100 = 0.46 (46%)

Also written as 23/50 = 46%

Proportional Reasoning

1/6 = 0.16666 (16.66%)