1. 9 + ( 12/6)^2 + (2x – 9) – 5

= (12/6)^2 + 2x + 9 – 9 – 5  
= (12/6)^2 + 2x – 5

= 2^2 + 2x -5

= 2x + 4 – 5

= 2x - 1

2.

3. ((4 + 3) x 4) – 5 + ((7 – 4)^2 / 3) +1

(7 x 4) – 5 + (3^2 / 3) + 1

28 – 5 + 3 + 1

23 + 4

27

4. 38.63 + 14.2 = 52.83 ,

230 x 2.465 = 566.95 ,

13.2/4.8 = 2.75

5. Y = mx + c

mx + c = Y

mx + c – c = Y – c

mx = Y – c

mx / x = Y – c/x

6. y/P + a = b

y/P \* y + A = b \* y

P + a = Yb

P + a – a = Yb – a

**P = Yb – a**

7. 2(X + 3) – 3(y + 2) = 4Xy

2X + 6 – 3y – 6 = 4Xy

2X – 3y = 4Xy

2X = 4Xy + 3y

2X – 4Xy = 3y

2X(1 – 2y) = 3y

8.

9. Friday = 3.5

Saturday = 5

Sunday = 6.5

Per hour = 12.50

3.5 \* 12.50 = 43.75  
 5 \* 12.50 = 62.50

6.5 \* 12.50 = 81.25

**Add all values together.**

43.75 + 62.50 + 81.25 = 187.50

**They will earn $187.50**

10. 5.5 – 3.25 = 2.25

7.75 – 3.25 = 4.5

7.75 – 3.25 = 4.5

11. P = 475

R = 12% / 100 = 0.12

**B = $3958.34**

12 . B = 18,000.00

R = 9% / 100 = 0.09

**P = 0.09 \* 18,000.00 = 1620**

13. B = 219

R = 0.15

P = 219.95 \* 0.15 = 32.99 = 219.95 – 32.99 = **$186.96 is the final amount paid**

14. Bacteria in a water sample increased from 2.6 ppm to 2.9 ppm. What is the percent increase in bacteria?

P = 2.9 - 2.6 = 0.3

B = 245

R = P/B = 0.3 / 2.9 \* 100 = 10%

15. B = 1600

R = P/B = 320/1600 = 0.20 = 20 -100 = 80%

P = 320

16. A company offers a safety harness for $345.00 (HST Included). What is the actual cost of the harness and what is the cost of the tax (15%).

P = 345 – 300 = 45

B = 345/1.15 = 300

17. If the price of a tester decreased from $60 to $36, What is the percent decrease in the cost?

P = 60 – 36 = 24

B = 60

R = P / B = 24 / 60 \* 100 = 40%

18. A camera is on sale for 25% off at a price of 224.96. What was the original price of the camera rounded to the nearest .95? What will the customer pay in total with HST of 15%?

R = 0.25

P = 224.96

B = 224.96 / .75 = 299.95

R = 0.15

P = 224.96

B = 1.15 \* 224.96 = 258.70

19.

A) <https://i.imgur.com/ybca9Rd.png>

B) <https://i.imgur.com/BMp4izm.png>

C) <https://i.imgur.com/9TQuho7.png>

D) https://i.imgur.com/HP3cgnX.png

20. 5 Python modules:

1. math.sqrt: The sqrt math functions returns the square root of a any number given to it.

Example: Doing math.sqrt(25) will give you a value of 5.

1. math.ceil: The ceil function returns the smallest whole value greater than the input value.

Example: Doing math.ceil(5.6) will give a value of 6.

1. math.floor: The floor function returns the largest whole value less than the input value.

Example: Doing math.floor(5.6) will give a value of 5.

1. math.pow: The pow functions returns the first value raised to the power of the second value.

Example: math.pow(5, 2) will give the value 25.

1. math.factorial: The factorial function returns the factorial of the input value.

Example: math.factorial(3) will return the value.