

MATH1040 Summer Assignment 2 Solutions

1. $4^3 - 3^4 + 2^{(\frac{1}{3} \times 9)}$

$$= 4 \times 4 \times 4 - 3 \times 3 \times 3 \times 3 + 2^3$$

$$= 64 - 81 + 8$$

$$= -9$$

2. a) $4x \times 2x + 7x + 5y - 3x$

$$= 8x^2 + 7x + 5y - 3x$$

$$= 8x^2 + 4x + 5y$$

3. a) $3(x - 4) = 3x - 12$

b) $(x + 3)(x - 6) = x \times x + x \times -6 + 3 \times x + 3 \times -6$

$$= x^2 - 6x + 3x - 18$$

$$= x^2 - 3x - 18$$

4.

a) $4t + 12 = 4(t + 3)$

b) $-6h - 10 = -2(3h + 5)$

5. $(3k + 9) \div (6k + 18) = \frac{3(k + 3)}{6(k + 3)} = \frac{3}{6} = \frac{1}{2}$

6. $v = u + at$

$$= 4 + 9.8 \times 5$$

$$= 4 + 49$$

$$= 53$$

7. You need six in total.

$$\frac{1}{3} \div \frac{1}{3} \div \frac{1}{3} \div \frac{1}{3} \div \frac{1}{3} \div \frac{1}{3}$$

$$= \frac{1}{3} \times 3 \times 3 \times 3 \times 3 \times 3$$

$$= 81$$

8. Amount eaten $= \frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16} + \frac{1}{32} = \frac{31}{32}$

Therefore, there is $\frac{1}{32}$ of 4L left (125mL).

9.a) $4r = 2r + 10$

b) $3(j + 2) = 4(j - 3)$

c) $\frac{x}{2} + 4 = 9$

$$2r = 10$$

$$3j + 6 = 4j - 12$$

$$\frac{x}{2} = 5$$

$$r = 5$$

$$-j = -18$$

$$x = 10$$

$$j = 18$$

Bonus question

Answer $= 1 \frac{3}{5}$