1. $2+2^2+2^3+2^4+\dots+2^n=510$

$S_n = \frac{a_1(r^n-1)}{r-1} = \frac{2(2^n-1)}{2-1}$

$510 = 2(2^n-1)$

$255 = 2^n-1$

$256 = 2^n$

$\therefore n = 8$

2. ผลบวก n พจน์แรกของอนุกรมเรขาคณิต

$S_n = \frac{a_1(1-r^n)}{1-r}$

$a_1+a_2+a_3+\dots = 13$

$\frac{a_1(1-r^{20})}{1-r} = 13$

$a_1(1-r^{20}) = 13-13r$ —①

$a_1-a_2+a_3-a_4+\dots+a_{19}-a_{20} = 17$

$\frac{a_1(1-(-r)^{20})}{1-(-r)} = 17$

$a_1(1-r^{20}) = 17+17r$ —②

① = ②

$17+17r = 13-13r$

$30r = -4$

$r = -\frac{4}{30} = -\frac{2}{15}$

3) $a_{n+2}-a_n = 3$

$a_{1+2}-a_1 = 3$

$a_3-a_1 = 3$

$a_1+2d-a_1 = 3$

$2d = 3$

$d = \frac{3}{2}$ —①

$a_1+a_2 = 10$

$a_1+a_1+d = 10$

$2a_1+\frac{3}{2} = 10$

$a_1 = \frac{17}{4}$ —②

$S_{40} = \frac{40}{2}\left(2\left(\frac{17}{4}\right)+(40-1)\frac{3}{2}\right)$

$= 20(67)$

$= 1340$ *

4. $1210 = 11\times11\times10$

$11\times10 \to 11^{111}$

$11^{109} = 10(q)+1$

$11^{111} = 1210(q)+121$

121 *

$(h,k) = (3,5)$

$a=5$ $b=9$ $c=4$

$f(x) = 3x+1$

$f(g(x)) = 3x^2+1$

$f(x) = 3x+1$

$f(g(x)) = 3g(x)+1$

$c = 4$

~~$3g(x)+1 = x^3+x+c$~~

51

8. $n(A\cap B) = x$ 25% $n(A) = 4x$

120 $n(B) = 8x$

$120 = 3x+7x = 120$ $\frac{5}{100}$

$x = 12$

$n(A\cup B) = 120+12 = 132$

9. ~~f(x)~~

$k(x+4)(x-2) = 0$

$f(x) = k(x+4)(x-2)$

แทน $x=0$ $f(0) = 4k-2$

$k = -2$

แทน $k=-2$ $f(x) = -2(x+4)(x-2)$

$= -2x^2-4x+16$

$a=-2,\ b=-4,\ c=16$

จะเป็นรูป พาราโบลาคว่ำ ค่าสูงสุด

$= 16-\frac{(-4)^2}{4(-2)} = 18$

12. กำไร 40%

$\frac{800\times140}{100} = 1120$

$\frac{1120\times100}{50} = 2240$ บาท

1 8 6

5 15 10

7 9

4 = 77

6 = 12

2 4 8 16 32

1 3 7 15 31

4 5 8

10 14 19 27 44

4 8 12 16 20 24

6 10 18 30 46 66 70

6, 11

4×3

4 12 68 630

8 56

9 18 14 28 24 48

9×2 -4 ×2 -4 ×2

พาราเซตามอล 2.2 mg / 2 mL → 1.1 mg / mL

ฯลฯ 3.1 mg / 4 ml → 0.078 mg / mL

E G D H C

5 7 4 8 3 9

+2 -3 +4 -5 +6

$V = \frac{s}{t}$

7 mg / น้ำหนักตัว 1 กิโล

350 mg / 50 กิโล

20 mg = 1 ml

$350 mg = \frac{350}{20}$

640 320 160 80 40 20 10 5

$D = \frac{m}{V}$

7 × 4.5

31.5

7 mg / 1 กิโล

NaCl = 5 M.

V = m

350 mg / 50 กิโล

20 mg = 1 ml

350 mg

341.25

5V = 0.5 (1000)