$d = 5$ $\quad d \times 5 = 5 \times 5 = 25$

1) $a_6 = 28$

$a_{10} = 3 + (10-1) \cdot 5$

$a_{10} = 3 + 9 \cdot 5$

$= 3 + 45$

$\boxed{= 48}$

$a_5 = 28 - 5 = 23$

$a_4 \quad 18$

$a_3 \quad 13$

$a_2 \quad 8$

$a_1 \quad 3$

2) $d = 6$

$a_1 = -1$

$a_2 = 5$

$a_3 = 11$

$a_7 = 35$

teniendo:

$a_3 = 11$

$a_7 = 35$

$\underbrace{a_7 - a_3}_{4} = 35 - 11 = 24 : 4 = 6$

$d = 6$

entonces $a_1 = -1$

3) teniendo:

$a_1 = -1$

$a_{12} = 121$

luego:

$$S_n = \frac{n}{2}(a_1 + a_n)$$

$$S_{12} = \frac{12}{2}(-1 + 121)$$

$$S_{12} = 6 \cdot (120)$$

$$S_{12} = 720$$

1)

a) $d = \underbrace{a_n - a_{n-1}}$ $\longrightarrow$ $3 - 5 = -2$

$d = -2$

$a_7 = a_1 + (n-1) * -2 =$

$a_7 = 5 + (7-1) * -2 =$ termino general $=$ $a_7 = 5 + (7-1) \cdot -2$

$a_7 = 5 - 12$

$a_7 = -7$

$S_n = \frac{n}{2} \cdot (2a_1 + (n-1) * d)$

b) $-12, -7, -2, 3, 8$ $= S_n = \frac{n(a_1 + a_n)}{2}$ $\longrightarrow$ $105 \cdot 2 = n(-12 + a_n)$

$d = 5$

$210 = n(-12 + -17 + 5n)$

$a_n = a_1 + (n-1) \cdot d$

$-12 + (n-1) \cdot 5 \cdot$

$210 = -12n - 17n + 5n^2$

$210 = -29n + 5n^2$

$a_n = -12 + 5n - 5$

$a_n = -17 + 5n$

$0 = 5n^2 - 29n - 210$

$n = 10$, dedido a que la otra solución es $(-)$

c) $S_n = 3250$ ·

$a_1 = 20$ ·

$d = 15$ ·

$a_n = a_1 + (n-1) * d$

$20 + \underbrace{(1)} * d$

$20 + 15(n-1)$

$$S_n = \frac{n(a_1 + a_n)}{2}$$

$3250 * 2 = n(40 + 15n - 15) =$

$6500 = 15n^2 + 40n - 15n$

$6500 = 15n^2 + 25n$

$0 = 15n^2 + 25n - 6500$

$x_1 = 20$

$x_2 = -65/3$ $\longrightarrow$ No sirve esta wea

Sistema de ecuaciones

d) $a_7 = 440$, $a_1 = 200$

$a_{25} = 1160$, $d = 40$

$a_7 = a_1 + (n-1) \cdot d$

$440 = a_1 + 6d$

$440 = a_1 + (6 \cdot 40)$

$440 = a_1 + 240$

$440 - 240 = a_1$

$200 = a_1$

$a_{25} = a_1 + (n-1) \cdot d$

$1160 = a_1 + 24d$

$1160 = \underbrace{a_1 + 6d} + 18d$

$1160 = 440 + 18d$

$720 = 18d$

$720/18 = d$

$40 = d$

$a_{38} = a_1 + (n-1) \cdot d$

$a_{38} = 200 + (37 \cdot 40)$

$a_{38} = 200 + 1480$

$a_{38} = 1680$

$a_n = a_0 + (n-1)d$

$a_7 = 440 = a_0 + 6d$

$a_{25} = 1160 = a_0 + 24d$

$1160 = \cancel{a_0} + 24d$

$- \quad 440 = -\cancel{a_0} - 6d$

$720 = 18d$

$d = 40$

$440 = a_0 + 6 \cdot 40$

$a_0 = 440 - 6 \cdot 40 = 200$

Sea $\{a_n\}$ la P.A de los sueldos mensuales en el n-ésimo año. Si a_0 y d son resp... termino inicial y diferencia comun, se tiene.

2) a) $a_n = 2/9, -1/3, 1/2$

$r = \frac{a_n}{a_{n-1}} = \frac{-3}{2}$

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

$S_8 = \frac{2}{9} \cdot \frac{\left(1 - \frac{-3}{2}^8\right)}{1 - \frac{-3}{2}} = \frac{6817}{2880}$

b) $S = 18, 12, 8$. Que lugar ocupa a_n $\frac{512}{729}$ a_n

$r = 1,5$

Cuando la razon es mayor a un es creciente
Cuando es menor que 1, es decreciente.

$\frac{512}{729} = \frac{2^9}{3^6}$

$18 = 2 \cdot 3^2 = \frac{1}{3^{-2}}$

$12 = \frac{2^2}{3^{-1}}$

$8 = \frac{2^3}{3^0} =$

$\frac{2^n}{3^{n-3}} = \frac{512}{729} \longrightarrow \frac{2^n}{3^n \cdot 3^{-3}} = \frac{2^n \cdot 3^3}{3^n} = \frac{512}{729} \to \frac{2^n}{3^n} = \frac{512}{729 \cdot 3^3} = \frac{2^9}{3^9}$

$\frac{2^n}{3^n} = \frac{2^9}{3^9} = 9$

c) $a_2 = 24$

$a_5 = 81$

$a_n = a_1 \cdot r^{n-1}$

$a_2 = a_1 \cdot r^{2-1}$

$24 = a_1 \cdot r^1$

$\frac{24}{r} = a_1$

$24/1.5 = 16 = a_1$

$a_{10} = 16 \cdot (1.5)^{10-1}$

$a_{10} = 16 \cdot 1.5^9$

$a_{10} = 615.09375$

$a_5 = a_1 \cdot r^{5-1}$

$81 = a_1 \cdot r^4$

$81 = \frac{24}{r} \cdot r^4$ / se cancela un r

$81 = 24 \cdot r^3$

$\frac{81}{24} = r^3$

$r = \sqrt[3]{81/24}$

$r = 1.5$

$a_1 + a_2 + a_3 = 21$ $\qquad \frac{a_1}{1} + a + a \cdot r$

$a + (a \cdot r) + (a \cdot r^2) = 21$

$a + (a \cdot r) + 3 = a \cdot r^2$

$a + (a \cdot r) = 21 + a \cdot r^2$

$a \cdot r^2 = 21 - (a \cdot r^2) + 3$

$2a \cdot r^2 = 24$

$a \cdot r^2 = 12 \rightarrow$ 3 termino

$\frac{a_3}{a_1} = r^2$

$a + (a \cdot r) + 3 = 12$

$a + (a \cdot r) = 21 - 12$

$a + (a \cdot r) = 9$

$a + (a \cdot r) = 9$

Pregunta 3

2) $\left(\frac{x}{y} - \frac{x^2}{2y^2}\right)^8$

Sea el coeficiente $\frac{n}{2} = \frac{8}{2} = 4$

$\binom{8}{4} \frac{x}{y}^{8-4} \cdot \frac{x^2}{2y^2}^4$

$\frac{x}{y}^4 \cdot \left(\frac{x^2}{2y^2}\right)^4$

$\frac{x^4}{y^4} \cdot \frac{x^8}{16y^8}$

$\binom{8}{4} \frac{x^4}{y^4} \cdot \frac{x^8}{16y^2} \longrightarrow \frac{x^{12}}{16y^{12}}$ $\qquad x^{12} : 16y^{12}$

$\frac{x^2 \cdot x^2}{y^2 \cdot y^2} \cdot \frac{x^8}{16y^2}$

$\frac{x}{y}\left(1 - \frac{x}{2y}\right)$

$\frac{x^8}{y^8} \cdot \left(1 - \frac{x}{2y}\right)^8$

Si los hace aumentar en 8 sumas existira en el desarrollo $\frac{x^2}{y^2}$

$\sqrt{3}$

$-\frac{\sqrt{2}}{2}$

cos $x = \sqrt{3} \rightarrow -1/2$

seno $y = 1 \rightarrow -\frac{\sqrt{3}}{2}$ $\qquad \frac{\pi}{3}$

$\cos\theta = 120$

$\theta \quad 90 + 30$

$\quad\quad\quad\quad 60$ ⟶ Reducir al primer cuadrante y luego dar el signo que se requiere.

11 Hasta las 5

Pregunta 4:

Sen Cos tg Cotg Sec cosec
Co ca co ca hip hip
hip hip ca co ca co

a) $\cos(5\pi) = \frac{\sqrt{4}}{2} = -1$

b) $\text{sen}\left(\frac{-7\pi}{6}\right) = \frac{6\pi}{6} + \frac{\pi}{6} = \pi + \frac{\pi}{6} = 0 + \frac{1}{2} = \frac{1}{2}$

c) $\cot\left(\frac{13\pi}{6}\right) \quad \frac{12\pi}{6} + \frac{\pi}{6} = 2\pi + \boxed{\frac{\pi}{6}} = \sqrt{3}$

d) $\tan\left(\frac{9\pi}{2}\right) = \frac{8\pi}{2} + \frac{\pi}{2} \quad 4\pi + \frac{\pi}{2} =$

co

ca

$4\pi + \frac{\pi}{2}$

$\frac{0}{1} = 0 + 0 = 0$

495

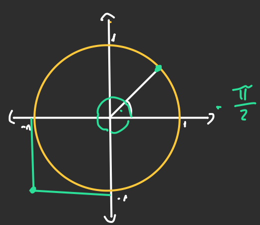
e) $\text{sen}\left(-\frac{3\pi}{2}\right) = \frac{2\pi}{2} + \frac{\pi}{2} \quad \pi + \frac{\pi}{2} = 0 + 1$

f) $\tan\left(\frac{23\pi}{4}\right) = \frac{20\pi}{4} + \frac{3\pi}{4} = 5\pi + \frac{3\pi}{4}$

$-1 +$

g) $\text{Sec}(-120°) = \frac{\pi}{2} + \frac{\pi}{6} = \frac{3\pi + \pi}{6} = \frac{4\pi}{6}$

h) $\csc(495°) =$



x y
-1, -1

$\cos = -1$
$\text{Sen} = -1$

$= 90° - \frac{\pi}{2}$