

MAT 101 c/o Idara Etuk

Question

17/Eng 02/025

$$a + 14d$$

$$-14d =$$

$$a = n - 14d$$

$$-10^5 = d$$

$$+ 47$$

$$d = 5/7$$

Sum of terms

$$\frac{n}{2} [2a + (n-1)d]$$

$$\frac{41}{2} [2(-10) + (41-1) \cdot 5/7]$$

$$\frac{41}{2} [-20 + (40) \cdot 5/7]$$

$$\frac{41}{2} [-20 + 28 \cdot 6] = \frac{41}{2} [8 \cdot 6] = 176.3$$

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$$(2) 180, 175, 170, \dots, 25$$

d : Common difference $= -5$

a : 180 First term

number of terms?

$$\text{last term } (t_n) = a + (n-1)d$$

$$\Rightarrow 25 = 180 + (n-1)(-5)$$

subtracting 180 from both sides

$$-155 = (n-1)(-5)$$

$$\begin{array}{r} +155 \\ \hline 48 \end{array} = n-1$$

$$31 = n-1$$

$$n \approx 31$$

$$31 + 1 = n$$

$$n = 32$$

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$$(3) \quad x = \frac{1}{2}$$

$$x = \frac{3}{2}$$

$$2x = 1$$

$$2x = 3$$

$$2x - 1 = 0$$

$$2x - 3 = 0$$

$$(2x - 1)(2x - 3) = 0$$

$$4x^2 - 6x - 2x + 3 = 0$$

$$4x^2 - 8x + 3 = 0$$