



PING YI SECONDARY SCHOOL

Perseverance Yields Success

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Class 302

Subject E-Math

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Ex 2.6 <Pg 48>

1. consecutive $\Rightarrow$ one after another

integers $\Rightarrow -4, -3, -2, -1, 0, 1, 2, 3$

Let x be the first integer

Let $x+1$ be the second integer

$$x(x+1) = 1260$$

$$x^2 + x = 1260$$

$$x^2 + x - 1260 = 0$$

$$a=1, b=1, c=-1260$$

$$x = \frac{-1 \pm \sqrt{1^2 - 4(1)(-1260)}}{2(1)}$$

$$x = \frac{-1 \pm \sqrt{5041}}{2}$$

$$x = \frac{-1 \pm 71}{2}$$

$$\therefore x = \frac{-1+71}{2} \quad \text{or} \quad x = \frac{-1-71}{2}$$

$$x = 35 \#$$

$$x = -36 \text{ (rejected)}$$

$\therefore$ The integers are 35 and 36 #

4. a) length of rectangle = x cm

$$\text{breadth} = \frac{253}{x} \#$$

b) perimeter = 68

$$\frac{253}{x} + \frac{253}{x} + x + x = 68$$

$$\frac{506}{x} + 2x = 68$$

$$506 + 2x^2 = 68x$$

$$2x^2 - 68x + 506 = 0$$

$$x^2 - 34x + 253 = 0$$

$$a=1, b=-34, c=253$$

$$x = \frac{-(-34) \pm \sqrt{(-34)^2 - 4(1)(253)}}{2(1)}$$

$$x = \frac{34 \pm \sqrt{144}}{2}$$

$$x = \frac{34 \pm 12}{2}$$

$$\therefore x = \frac{34+12}{2} \quad \text{or} \quad x = \frac{34-12}{2}$$

$$x = 23$$

$$x = 11$$

$\therefore$ 23 is the length and 11 is breadth #

- 6a) ① the new length = $24 - x$ #
 ② the new breadth = $17 + x$ #
 ③ the new area of the rectangle:

$$(24 - x)(17 + x)$$

$$= 408 + 7x - x^2 \text{ #}$$

b) $408 + 7x - x^2 = (24 \times 17) + 12$

$$408 + 7x - x^2 = 420$$

$$0 = x^2 - 7x - 408 + 420$$

$$x^2 - 7x + 12 = 0$$

$$(x - 3)(x - 4) = 0$$

$$x = 3 \text{ # or } x = 4 \text{ #}$$

7 Let Mingfa's ~~old~~ ^{father} ~~be~~ ^{be} x years old

Let Mingfa's ~~be~~ ^{be} $34 - x$ years old

$$(x + 4)^2 = 34 - x + 4$$

$$x^2 + 4x + 4x + 16 = 38 - x$$

$$x^2 + 8x + 16 = 38 - x$$

$$x^2 + 9x - 22 = 0$$

$$(x + 11)(x - 2) = 0$$

$$x = -11 \text{ or } x = 2 \text{ #}$$

$\therefore$ Mingfa is 2 years old #

30/1/16