

GSA - Math Portion

Q. 7

a) The sum of three consecutive odd numbers is 273. What are the three odd numbers?

Solution:

the sum of three consecutive odd numbers = 273

$$\text{1st odd number} = x \quad \text{--- i}$$

$$\text{2nd odd number} = x + 2 \quad \text{--- ii}$$

$$\text{3rd odd number} = x + 4 \quad \text{--- iii}$$

So, Sum of three odd number

$$x + x + 2 + x + 4 = 273$$

$$3x + 6 = 273$$

$$3x = 273 - 6$$

$$3x = 267$$

$$x = \frac{267}{3} = 89$$

Hence consecutive odd numbers are:

$$89, 91, 93$$

$$\boxed{89 + 91 + 93 = 273} \text{ Ans.}$$

b) Find the missing numbers in the given series.

i) 4, 16, 36, 64, ?, 144.

Solution:

$$4 + 12 = 16$$

$$16 + 20 = 36$$

$$36 + 28 = 64$$

$$64 + 36 = 100$$

$$100 + 44 = 144$$

So, to get the answer, we have to add 8 to get required answer.

Hence, the answer is $\boxed{100}$.

ii) 30, 29, 27, ?, 20, 15

Solution:

$$30 - 1 = 29$$

$$29 - 2 = 27$$

$$27 - 3 = 24$$

$$24 - 4 = 20$$

$$20 - 5 = 15$$

$$12 + 8 = 20$$

$$20 + 10 = 30$$

$$30 + 12 = 42$$

So, the missing number is $\boxed{42}$.

v) 48, 24, 72, 36, 108, ?

Solution:

$$48 \div 2 = 24$$

$$72 \div 2 = 36$$

$$108 \div 2 = 54$$

So, the missing number is $\boxed{54}$.

c) Find out the correct word from the given jumbled spelling.

Answers

i) THRSI = SHIRT

ii) GNDREA = GANDER

iii) SCHAMOT = STOMACH

iv) ONLND O = LONDON

v) HIODALY = HOLIDAY

So, we have to subtract 1 in first number, 2 from second, 3 from third, 4 from fourth, and 5 from fifth number. Hence, the missing number is $\boxed{24}$.

ii) 1, 7, 15, 25, ?, 51

Solution:

$$1 + 6 = 7$$

$$7 + 8 = 15$$

$$15 + 10 = 25$$

$$25 + 12 = 37$$

$$37 + 14 = 51$$

So, we have to add 6 in first number and to get next number we add 8 in second, 10 in third, 12 in fourth and so on. Hence, the missing number is $\boxed{37}$.

iii) 0, 2, 6, 12, 20, 30, ?

Solution:

$$0 + 2 = 2$$

$$2 + 4 = 6$$

$$6 + 6 = 12$$

d) Sara's mother is 6 times older than Sara, where as her brother Ali is twice as old as Sara. In three year's time the the sum of their ages will be 72. How old are Sara, Ali, and their mother now?

Solution: suppose that

Sara is " x ", Ali is " y " and her mother is " z ".

$$6x = z \quad \text{--- (i)}$$

$$2x = y \quad \text{--- (ii)}$$

$$x + y + z + 3 + 3 + 3 = 72$$

$$x + y + z + 9 = 72$$

putting " y " and " z " value in this equation

$$x + 2x + 6x = 72 - 9$$

$$9x = 63$$

$$x = \frac{63}{9} = 7$$

So,

$$6 \times 7 = z,$$

$$z = 42 \quad \text{and}$$

$$2 \times 7 = y$$

$$\therefore y = 14$$

Hence,

$$\text{Sara's age} = 7$$

$$\text{Sara's brother age} = 14$$

$$\text{Sara's Mother age} = 42 \quad \underline{\text{Ans.}}$$