

## SAMPLE PAPER 4: PAPER 1

### QUESTION 4 (25 MARKS)

#### Question 4 (a)

$$1, \frac{1}{3}, \frac{1}{9}, \frac{1}{27}, \dots$$

$$a=1, r=\frac{1}{3}$$

$$S_{\infty} = \frac{a}{1-r} = \frac{1}{1-\frac{1}{3}} = \frac{3}{2}$$

#### Question 4 (b)

$$a-d, a, a+d$$

$$a-d+a+a+d=3a=27 \Rightarrow a=9$$

$$9-d, 9, 9+d$$

$$(9-d)^2 + 9^2 + (9+d)^2 = 293$$

$$81 - 18d + d^2 + 81 + 81 + 18d + d^2 = 293$$

$$2d^2 = 293 - 243$$

$$2d^2 = 50$$

$$d^2 = 25$$

$$d = \pm 5 \text{ (Use either)}$$

Numbers: 4, 9, 14

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