

- 1 (a) Roberto owns 6000 square metres of land.
He divides it between himself and his two children, Stefano and Tania, in the ratio

$$\text{Roberto} : \text{Stefano} : \text{Tania} = 7 : 5 : 3.$$

- (i) Show that Roberto now has 2800 square metres of land.

Answer(a)(i)

$$\frac{7}{7+5+3} \times 6000 = \frac{7}{15} \times 6000$$

$$= 2800$$

[2]

- (ii) Calculate the area of land that Stefano and Tania each have.

$$\text{Stefano: } \frac{5}{7+5+3} \times 6000 = \frac{5}{15} \times 6000$$

$$= 2000$$

$$\text{Tania: } \frac{3}{7+5+3} \times 6000 = \frac{3}{15} \times 6000$$

$$= 1200$$

Answer(a)(ii) Stefano 2000 m²

Tania 1200 m² [2]

- (b) Roberto receives a rent of \$1.40 per month for each square metre of his land.

- (i) Calculate the rent he receives in **one year** from his 2800 square metres of land.

$$2800 \times \$1.40 \times 12$$

$$= \$47040$$

Answer(b)(i) \$ 47040 [2]

- (ii) Roberto uses $\frac{3}{5}$ of this amount to buy more land.

Calculate the amount that he uses to buy more land.

$$\frac{3}{5} \times \$47040 = \$28224$$

Answer(b)(ii) \$ 28224 [2]