

Answer Key: Proportion Extension Problems

Direct Proportion Past

1. 7 apples cost £1.68.
2. 60
3. £20.40
4. £44.63
5. 120 customers

Direct Proportion Future

6. 44 cm
7. 54 cm
8. 49 cm^2
9. 52.5 cm
10. (a) 90 m^2
(b) $16\sqrt{6} \text{ m}$ (approx. 39.19 m)

Rates of Change Past

11. Approximately 0.1429 cm/day
12. 78.4 L
13. The car (£10222.08 vs £6229.50)
14. (a) 265 shares
(b) 695 shares
15. New cost per hour: £40. New monthly cost: £9200.

Rates of Change Future

16. 8 cm/s. No, it does not depend on the side length.
17. £36000
18. (a) π m/min (approx. 3.14 m/min)
(b) π m/min (approx. 3.14 m/min)
(c) 36π m² (approx. 113.10 m²)
19. (a) 3 m/h
(b) 3.625 m². No, the area does not grow at a constant rate.
20. (a) $A = 4x^2 + 32x$
(b) TBC