

7. The power  $P$  watts of an electrical appliance is directly proportional to the square of the electrical current  $I$  (Ampere) following through it. Given that when  $P = 4.9$ ,  $I = 0.7$ .
- (a) Construct an equation connecting  $P$  and  $I$ .
  - (b) Calculate the value of  $P$  when  $I = 1.2$
  - (c) Calculate the value of  $I$  when  $P = 5$
- ✍
8. A ship sailing at an average speed of 50km/h takes 1.04hour to travel from England to France. Find the time taken for another ship to travel the same journey if the speed of the ship is 17km/h, giving your answer to 2 d.p.
- ✍
9. 5 writers need 8 days to complete 2 books. Assuming each of them writes at the same pace, how many books can 8 writers accomplish in 10 days?
- ✍
10. 3 pipes can fill up 2 pails of water in 8 minutes. How many pails of water can 2 pipes fill up in 6 minutes?
- ✍
11. Given that  $p$  is inversely proportional to  $q$  and when  $p = -1.5$ ,  $q = -8$ .
- (a) Find an equation connecting  $p$  and  $q$ .
  - (b) Calculate the value of  $p$  when  $q = 30$
  - (c) Calculate the value of  $q$  when  $p = -3$ .
- ✍
12. If  $y$  is inversely proportional to  $\sqrt{x}$  and when  $y = \sqrt{2}$ ,  $x = 8$ .
- (a) Find an equation connecting  $y$  and  $x$ .
  - (b) Calculate the value of  $y$  when  $x = 169$
  - (c) Calculate the value of  $x$  when  $y = 1$
- ✍
13. For a given volume of cylinder, the height,  $h$  cm is inversely proportional to the square of the base radius  $r$  cm. Calculate the height of cylinder A with base radius  $r = 2$  cm if it has the same volume as cylinder B which has a base radius of 4cm and height of 3cm.
- ✍