Direct Proportion

*** You need a calculator for this worksheet.**

1. Fred walked at a steady rate of 5km/h for 7 hours. The table below represents his distance, from the start, at the end of each hour.

Time (t) hours	0	1	2	3	4	5	6	7
Distance (D) km		5			20			

    (a) Copy and complete the table.   (b) Draw a graph of distance (D) against time (t).

    (c) Explain why the relationship between D and t is directly proportional.

2. 300g of flour is used to make 6 cakes. How much flour is needed to make:

    (a) 12 such cakes?   (b) 3 cakes?   (c) 9 cakes?

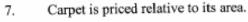3. Eight bars of chocolate cost £3.36. Calculate the cost of:

    (a) 1 bar of chocolate   (b) 3 bars   (c) 11 bars.

4. A stack of six identical books weighs 1·38kg. How much would a stack of 10 books weigh?

5. (a) 4 cakes cost £3.12. Find the cost of 9 cakes.
    (b) The height of 12 stacked CD cases is 136·8 mm. Calculate the height of 7 such cases.
    (c) A row of 24 staples measures 14·4 mm. How long would a row of 38 staples be?
    (d) The weight of 3 baskets of fruit is 5·4 kg. Calculate the weight of 5 baskets.

6. 4 CD's cost £35.92 and 3 cassettes cost £15.78. Find the **total** cost of ....

    (a) 7 CD's and 2 cassettes.   (b) 3 CD's and 5 cassettes.

7. Carpet is priced relative to its area.
    A rectangular carpet measuring 5m by 4m costs £264.

    (a) Calculate the cost for 1 square metre of this carpet. (the cost per sq.m)

    (b) How much would a carpet measuring 8m by 6m cost?

8. A bedroom carpet measuring 4m by 7m costs £180.60.
    How much would the same type of carpet measuring 5m by 8m cost?

9. A car uses 15 litres of petrol to travel 210 miles. How much petrol would the car use for a journey of 378 miles at the same rate of consumption?

10. Fifteen books cost £123. How many books could you buy for £73.80?

11. For £250 you receive 2750 francs. How much would 1364 francs cost you in pounds sterling?

Direct Proportion - Answers

1. (*a*)

Time (*t*) hours	0	1	2	3	4	5	6	7
Distance (*D*) km	0	5	10	15	20	25	30	35

   (*b*)   Graph of above
   (*c*)   Straight line through origin

2. (a)   600g   (b)   150g   (c)   450g

3. (a)   42p   (b)   £1·26   (c)   £4·62

4.   2·3kg

5. (a)   £7·02   (b)   79·8mm   (c)   22·8mm   (d)   9kg

6. (a)   £73·38   (b)   £53·24

7. (a)   £13·20   (b)   £633·60

8.   £258   9.   27 litres   10.   9 books

11.   £124