1   **(a)** Mary is knitting a cardigan for herself and one for her young sister Tasha.
The amounts of wool needed for Mary's cardigan and Tasha's cardigan are in the ratio 5 : 3.

   (i)   Mary needs 24 balls of wool in total for both cardigans.

   How many balls of wool are needed for Tasha's cardigan?

   (a)(i) .... balls **[2]**

   (ii) Mary takes 6 weeks to knit Tasha's cardigan.
She knits for the same amount of time each week.

   How many weeks should she expect to take to knit her own cardigan?

   (ii) .... weeks **[2]**

(b) Anya takes 20 minutes to knit one row of her cardigan.
Sally takes 16 minutes to knit one row of her cardigan.
They both start knitting a new row at 1 pm.
They carry on knitting.

What is the next time that they both start a new row together?

   (b) .... **[3]**

2   Four friends go tenpin bowling.
They each pay for 3 games.
Each person pays £1.99 for the hire of shoes.
The total cost is £60.76.

Work out the cost each person pays for one game.

£ .... **[3]**

3 Marcus has the calculation 4.648 ÷ 0.28 to do for his homework.

Fill in the boxes to complete his method.

The numbers in boxes A and B are identical.

$$4.648 \div 0.28 = \boxed{^A \quad\quad} \div 28$$

$$= \boxed{^B \quad\quad} \div \boxed{^C \quad} \div 7$$

$$= \boxed{^D \quad\quad} \div 7$$

$$= \boxed{^E \quad\quad}$$

[4]

4 You are given that $411 \times 32 = 13\,152$.

Use this information to work out the answer to each of the following.

(a) 4110×320

(a) .... **[1]**

(b) 4.11×320

(b) .... **[1]**

(c) $13.152 \div 32$

(c) .... **[2]**

5   A school has a delivery of identical maths textbooks.
6 of these books, placed side by side, take up 15.9 cm of shelf length.

(a) What shelf length is taken up by 10 of these books, placed side by side?

(a) .... cm **[3]**

(b) Another shelf is 90 cm long.

How many of these books will fit, side by side, on this shelf?

(b) .... **[3]**

6 **(a)** Write 12 as the product of its prime factors.

(a) _____ **[1]**

(b) Jacinda makes sweets for a party.
The party is for **either** 8 people **or** 12 people.
She wants everyone at the party to have the same number of sweets, at least 3 sweets each, **with none left over**.

(i) Find the least number of sweets she must make, suitable for either 8 people or 12 people.

(b)(i) _____ **[2]**

(ii) Jacinda decides to make more than this least number of sweets for the party.

Describe a rule for her to work out greater numbers to make, so that everyone at the party can still have the same number of sweets as each other, with none left over.

_____

_____ **[2]**

7   Complete the five missing amounts in this bill.

35 m^2 of carpet at £25.20 per m^2	£_____
35 m^2 of underlay at £_____ per m^2	£_____
Fixings	£ 13.3
Cost of all items	£ 1112.00
VAT (20% of the cost of all items)	£_____
TOTAL	£_____

[5]

8   Complete these calculations.

(a)

$$41 + \boxed{} = 100$$

$$100 - \boxed{} = 72$$

$$7 \times 9 = \boxed{}$$

$$54 \div 9 = \boxed{}$$

[2]

(b)   A tap dancer does one tap every 0.05 seconds.
Lucy wants to work out how many taps this dancer does in one minute.

(i)   What division could Lucy do to work this out?

(b)(i) .... **[1]**

(ii)   Work out how many taps this dancer could do in one minute.

(ii) .... **[3]**

9 Here is a list of ingredients for a fruit cake.
1 pound (lb) = 16 ounces (oz)

Fruit Cake

Dried fruit

- Currant $\quad$ $1\frac{1}{4}$ lb
- Sultana $\quad$ $\frac{1}{2}$ lb
- Raisin $\quad$ $\frac{1}{2}$ lb
- Glace cherrie $\quad$ $2\frac{1}{2}$ oz
- Mixed pee $\quad$ $2\frac{1}{2}$ oz

Other ingredients

- Flou $\quad$ 10 oz
- Brown suga $\quad$ 10 oz
- Butte $\quad$ 10 oz
- Egg $\quad$ 5

(a) Find the total weight, **in ounces (oz)**, of all the dried fruit.

(a) _____ oz **[2]**

(b) A baker plans to make 25 of these fruit cakes.

(i) How many pounds of currants will she need altogether?
Give your answer as a mixed number.

(b)(i) _____ lb **[2]**

(ii) She buys eggs in boxes of 12.

How many boxes of eggs will she need?

(ii) _____ **[2]**

10 (a) Ann has 21 paperback books on her bookshelf.
Each paperback book is 2 cm wide.
Her bookshelf is 670 mm long.

Calculate how many **more** paperback books of this size she can fit on the shelf.

(a) _____ **[4]**

(b) Ann buys 3 books.
They cost £3.99, £5.49 and £6.99.
She pays with a £20 note.

How much change should she get?

(b) £ _____ **[3]**