Multiplying using the grid method

Use the methods shown to perform these multiplications.

1 $24 \times 13 = \square$

×	10	3
20	200	60
4	40	12

260
+ 52 = ☐

Add each row together. Then add the totals.

2 $35 \times 13 = \square$

3 $42 \times 14 = \square$

4 $38 \times 15 = \square$

5 $29 \times 16 = \square$

6 $61 \times 17 = \square$

7 $57 \times 18 = \square$

8 $45 \times 22 = \square$

×	20	2
40	800	80
5	100	10

880
+ 110 = ☐

9 $43 \times 21 = \square$

10 $51 \times 23 = \square$

11 $38 \times 31 = \square$

12 $52 \times 24 = \square$

13 $63 \times 33 = \square$

14 $46 \times 42 = \square$

THINK

$46 \times \square 3 = 598$

What is the missing digit?

- **I am confident with multiplying using the grid method.**

Long multiplication

Copy and complete these multiplications.

1
$$\begin{array}{r} 32 \\ \times\ 14 \\ \hline 320 \\ \hline \end{array}$$

2
$$\begin{array}{r} 44 \\ \times\ 13 \\ \hline 440 \\ \hline \end{array}$$

3
$$\begin{array}{r} 28 \\ \times\ 16 \\ \hline 280 \\ \hline \end{array}$$

4
$$\begin{array}{r} 56 \\ \times\ 19 \\ \hline 560 \\ \hline \end{array}$$

5
$$\begin{array}{r} 231 \\ \times\ 13 \\ \hline 2310 \\ \hline \end{array}$$

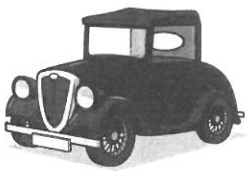
6
$$\begin{array}{r} 124 \\ \times\ 14 \\ \hline 1240 \\ \hline \end{array}$$

Calculate the total miles each vehicle travels.

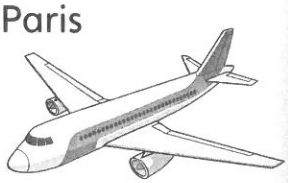
7 London to Oxford
52 miles
13 trips

8 Luton to Bedford
24 miles
16 trips

9 Leeds to Hull
68 miles
15 trips

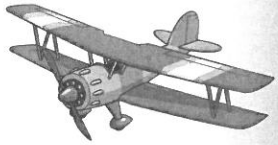


10 London to Paris
213 miles
14 trips



11 Rome to Berlin
732 miles
13 trips

12 Vienna to Dublin
821 miles
16 trips



THINK Does 32 × 16 give you the same answer as 36 × 12?

I am confident with using long multiplication for 2-digit and 3-digit calculations.

Perform these multiplications. Estimate the answers first.

1 $\begin{array}{r} 432 \\ \times\ 14 \\ \hline \\ \hline \end{array}$

2 $\begin{array}{r} 135 \\ \times\ 13 \\ \hline \\ \hline \end{array}$

3 $\begin{array}{r} 212 \\ \times\ 16 \\ \hline \\ \hline \end{array}$

4 $\begin{array}{r} 385 \\ \times\ 15 \\ \hline \\ \hline \end{array}$

5 $\begin{array}{r} 843 \\ \times\ 17 \\ \hline \\ \hline \end{array}$

6 $\begin{array}{r} 674 \\ \times\ 19 \\ \hline \\ \hline \end{array}$

7 $\begin{array}{r} 626 \\ \times\ 18 \\ \hline \\ \hline \end{array}$

8 $\begin{array}{r} 748 \\ \times\ 14 \\ \hline \\ \hline \end{array}$

Solve these word problems.

9 A group of 12 people go on holiday. The holiday costs £124 per person. How much does the holiday cost altogether?

10 A pilot flies from London to Paris and back, which is a total of 426 miles. She does this journey 13 times. How many miles has she flown altogether?

6 ☐ 4 × ☐ 3 = 7982
What are the missing digits?
The two digits are the same.

I am confident with using long multiplication for 2-digit and 3-digit calculations.

Perform these multiplications.

1
$$\begin{array}{r} 548 \\ \times\ 12 \\ \hline \\ \hline \end{array}$$

2
$$\begin{array}{r} 217 \\ \times\ 15 \\ \hline \\ \hline \end{array}$$

3
$$\begin{array}{r} 147 \\ \times\ 13 \\ \hline \\ \hline \end{array}$$

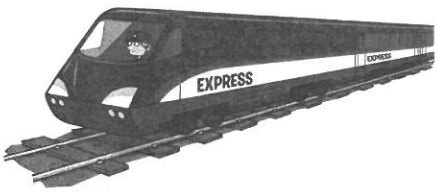
4
$$\begin{array}{r} 571 \\ \times\ 14 \\ \hline \\ \hline \end{array}$$

5
$$\begin{array}{r} 286 \\ \times\ 16 \\ \hline \\ \hline \end{array}$$

6
$$\begin{array}{r} 777 \\ \times\ 18 \\ \hline \\ \hline \end{array}$$

Solve these word problems.

7 A train driver makes 14 journeys, each 312 miles long. How many miles does she travel in total?



8 Some supermarket workers unpack 452 boxes of baked beans, each containing 16 tins. How many tins in total is this?

THINK

A 3-digit number that does not end in 0 is multiplied by a 2-digit number that is between 12 and 19. The product is a multiple of 50. Write a multiplication that works.

- **I am confident with using long multiplication to solve problems.**

Solve these multiplications.

1
$$\begin{array}{r} 678 \\ \times\ 16 \\ \hline \\ \hline \end{array}$$

2
$$\begin{array}{r} 926 \\ \times\ 17 \\ \hline \\ \hline \end{array}$$

3
$$\begin{array}{r} 689 \\ \times\ 19 \\ \hline \\ \hline \end{array}$$

4
$$\begin{array}{r} 708 \\ \times\ 18 \\ \hline \\ \hline \end{array}$$

5
$$\begin{array}{r} 488 \\ \times\ 16 \\ \hline \\ \hline \end{array}$$

6
$$\begin{array}{r} 793 \\ \times\ 17 \\ \hline \\ \hline \end{array}$$

7
$$\begin{array}{r} 636 \\ \times\ 26 \\ \hline \\ \hline \end{array}$$

8
$$\begin{array}{r} 164 \\ \times\ 28 \\ \hline \\ \hline \end{array}$$

Six children took part in a multiplication challenge. Here are their answers. Who got one correct? Who got both correct?

9

Tim

573 × 14 = 8022	684 × 18 = 12 132

Ranjit

967 × 14 = 12 538	268 × 19 = 5073

Su Li

826 × 16 = 13 216	386 × 17 = 6562

Jenny

536 × 16 = 8576	883 × 17 = 15 011

Jack

845 × 17 = 13 365	573 × 16 = 5968

Devi

724 × 18 = 13 132	919 × 15 = 13 785

2 ☐ 1 is multiplied by a teens number between 12 and 20. The product ends in 99. Write a multiplication it could be.

I am confident with using long multiplication to solve problems.

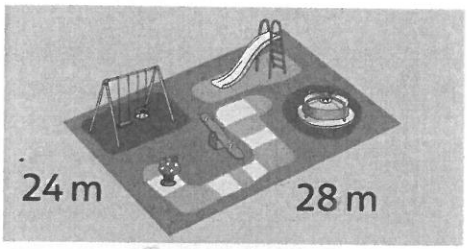
Multiplying by integers and decimals

Solve these multiplications.

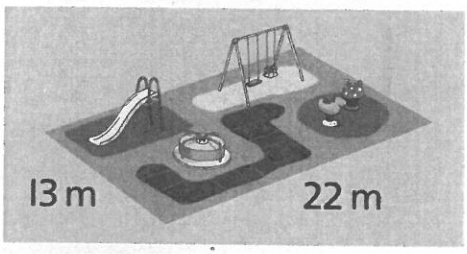
1. $48 \times 13 = \square$
2. $17 \times 64 = \square$
3. £$36 \times 21 = \square$
4. $23 \times 63\,\text{mm} = \square$
5. $24 \times 18\,\text{kg} = \square$
6. $37 \times 42\,\text{m} = \square$
7. £$45 \times 54 = \square$
8. $38 \times 42\,\text{l} = \square$
9. £$76 \times 88 = \square$
10. $78 \times 36\,\text{cm} = \square$

Find the area of each playground.

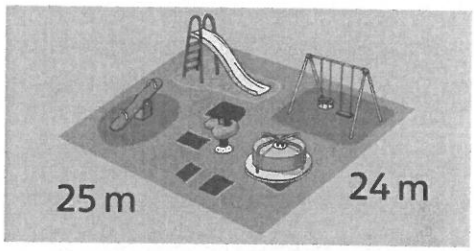
11.



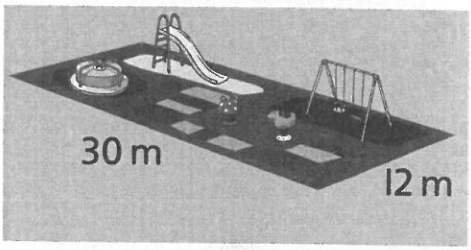
12.



13.



14.



THINK

1	2	3

Put the number cards in the correct places to make this true.

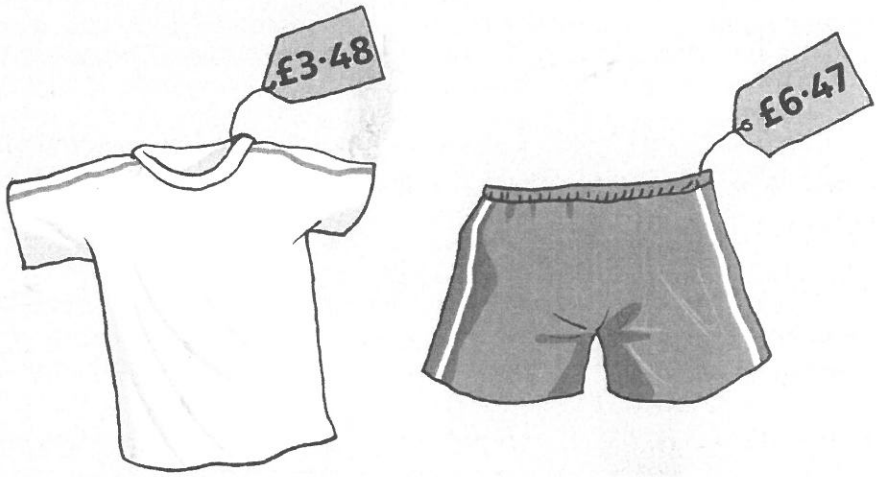
$\square 4 \times \square\square = 744$

I am confident with multiplying two 2-digit numbers.

Solve these multiplications.

1. $632 \times 4 =$ ☐
2. $735 \times 6 =$ ☐
3. $375 \times 3 =$ ☐
4. $8134 \times 5 =$ ☐
5. $7056 \times 8 =$ ☐
6. $3972 \times 9 =$ ☐
7. £7·39 × 8 = ☐
8. £9·78 × 4 = ☐
9. £79·45 × 9 = ☐
10. £18·57 × 6 = ☐

Now solve these word problems.

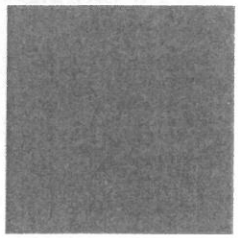


11. Sam's dad buys three P.E. t-shirts and three pairs of P.E. shorts. How much does he spend altogether?
12. Banu's mum buys four P.E. t-shirts and two pairs of P.E. shorts. How much does she spend altogether?
13. Mary's nan buys two P.E. t-shirts and four pairs of P.E. shorts. How much does she spend altogether?
14. Alex's mum buys four P.E. t-shirts and three pairs of P.E. shorts. How much does she spend altogether?

- **I am confident with multiplying 4-digit numbers and decimals by 1-digit numbers.**

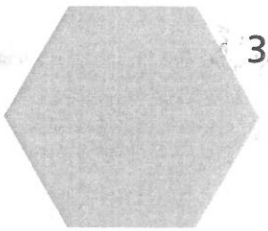
Find the perimeter of each of these regular shapes.

1



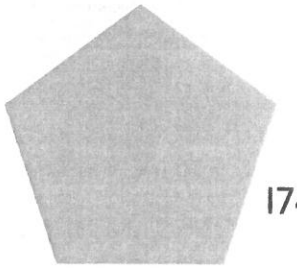
24·7 cm

3



32·8 cm

2



174 mm

4

624 mm

Now answer these word problems.

5 Clare buys four memory cards from an online store. Each card costs £23·74. There is also a £4·75 delivery charge. How much does she pay in total?

6 An adult ticket to a concert costs £58·67. A child's ticket is £13·24 cheaper than the adult ticket. How much would it cost for two adult and three children's tickets?

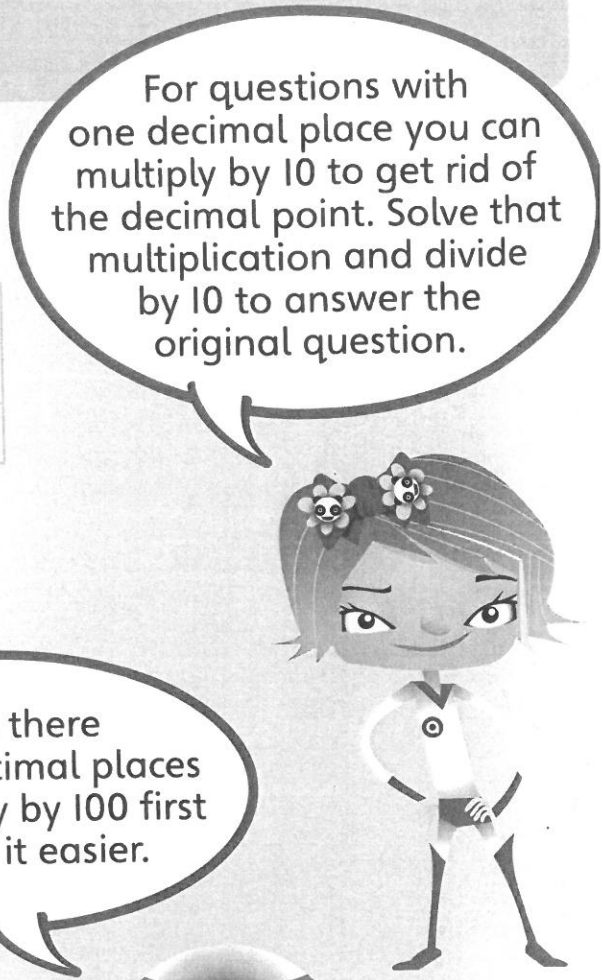
7 Sanjeet has just started a new job. He opens a bank account by paying in £50. Each month £68·72 in wages is paid into the account. How much will he have in the account after 6 months if he does not withdraw or spend any money?

8 Which is more expensive and by how much? Five pairs of trainers at £26·38 each or four pairs of boots at £31·89 each?

Multiply 19·91 by 9. Then multiply 29·92 by 9. Then predict the answer to 39·93 × 9. Check your answer. Were you right?

- **I am confident with multiplying 4-digit numbers and decimals by 1-digit numbers.**

Solve these multiplications.



1 $24 \times 34{\cdot}2 = \square$

24×342

	300	40	2
20	6000		
4			

So $24 \times 34{\cdot}2 = \square$

2 $17 \times 36{\cdot}2 = \square$

3 $22 \times 123{\cdot}4 = \square$

4 $14 \times 241{\cdot}7 = \square$

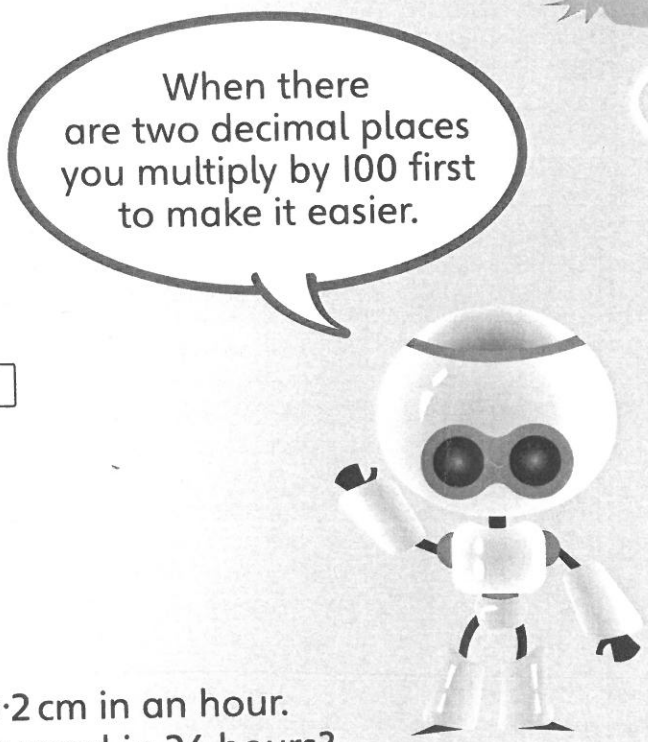
5 $26 \times 2{\cdot}42 = \square$

$26 \times 242 = \square$

So $26 \times 2{\cdot}42 = \square$

6 $14 \times 3{\cdot}21 = \square$

7 $24 \times 2{\cdot}79 = \square$



8 A slug crawls 23·2 cm in an hour.
How far could it crawl in 24 hours?

9 Ibraheem cycles to and from his office every work day, which is a distance of 19·8 km. He works for 23 days in January.
How far did he cycle on those days altogether?

10 Gary is 1·78 m tall. He can throw a javelin a distance that is 42 times his height. How far can he throw a javelin?

- **I am confident with multiplying 4-digit numbers and decimals by 2-digit numbers.**

Write an estimation, then solve each problem.

1 $73{\cdot}2 \times 16 = \square$

2 $69{\cdot}5 \times 22 = \square$

3 $3{\cdot}77 \times 18 = \square$

4 $8{\cdot}34 \times 23 = \square$

5 $705{\cdot}6 \times 29 = \square$

6 $397{\cdot}2 \times 27 = \square$

7 $78{\cdot}69 \times 19 = \square$

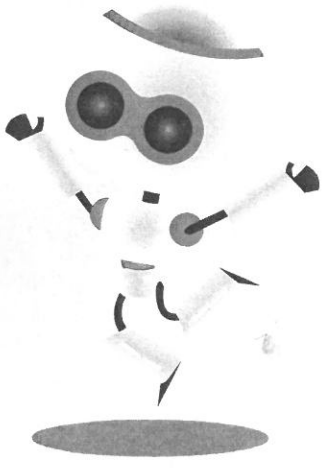
8 $98{\cdot}78 \times 26 = \square$

9 Sara pays £5·89 each month in life insurance. How much does she pay in one year? How much does she pay in two years?

10 Pavlo is laying some square tiles, side-by-side in a row. Each tile is 38·4 cm long. How long is a row of 17 tiles?

11 What is the area of a field that is 132·4 m long by 28 m wide?

12 Chloe has a bank account that has £600 in it. Each month, for 18 months, she pays £28·57 from the account. How much money is left in the account after that, if no other money is paid in or withdrawn?



I am confident with multiplying 4-digit numbers and decimals by 2-digit numbers.

Solve these word problems.

1. Selina is getting car insurance for the year. If she pays up front she pays £444·11. How much more will she pay in total if she pays £37·46 each month for the year?

2. Along one side of a stretch of motorway, lamp-posts are spaced out so that each is 158·4 m from the next. There are 50 lamp-posts in a line. What is the distance from the first to the last lamp-post? (Clue: There are 49 spaces between them.)

3. A company makes rehydration sachets. Each sachet contains 19·45 g of medication. The company puts 24 sachets in each box. How much medication is in each box?

4. What is the area of a football pitch that measures 107·4 m long and 67 m wide?

5. Jack earns £47·52 each day. How much does he get paid for working 31 days?

6. The kerb stones along the edge of a road each measure 108·2 cm in length. What is the length of 27 kerb stones in a straight line?

7. Jasmine has a bank account that has £800 in it. Each month, for 16 months, she pays a direct debit of £46·77 from the account. How much money is left in the account after that, if no other money is paid in or withdrawn?

8. A large building is made using 84 steel girders, each measuring 14·35 m long. If each girder costs £23 per metre of its length, what is the total cost of the girders?

I am confident with multiplying 4-digit numbers and decimals by 2-digit numbers.