Question number	Question	Answer	Marks
1	$11^2 = \square$	121	1
2	$4 \times \square = 32$	8	1
3	$0.1 + \square = 1$	0.9	1
4	$\square \div 100 = 40$	4000	1
5	$6 = 24 \div \square$	4	1
6	$6682 \times 8 = \square$	53 456	1
7	$\square^3 = 64$	4	1
8	$50 - 30 = \square \div 2$	40	1
9	$\square = 10\%$ of 200	20	1
10	$\frac{8}{9} - \frac{2}{3} = \square$	$\frac{2}{9}$ (or equiv)	1
11	$25 \div (7 - 2) = \square$	5	1
12	$\frac{3}{10} \times \frac{1}{5} = \square$	$\frac{3}{50}$ (or equiv)	1
13	$0.012 \times 10 = \square$	0.12	1
14	$\frac{2}{7}$ of $70 = \square$	20	1
15	$\square = \frac{16}{7} - \frac{3}{14}$	$2\frac{1}{14}$ (or equiv)	1
16	$387 \div 2 = \square$	193.5	1
17	$5000 - 2145 = \square$	2855	1
18	$4.7 + 26.28 + 158.34 = \square$	189.32	1
19	$\square = 3960 \div 8$	495	1
20	$273\,485 - 89\,916 = \square$	183 569	1
21	$8214 = \square \times 3$	2738	1
22	$674 \div 4 = \square$	168.5	1
23	15% of $480 = \square$	72	1
24	$\square \div 3 = 784$	2352	1
25	$1293 = 7000 - \square$	5707	1
26	$6187 \div 23 = \square$	269	2*
27	$2427 \times 88 = \square$	213 576	2*
28	$7321 \div 8 = \square$	915.125	1
		Total marks	30

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1. $271 + 824 = 1095$
2. $900 + 952 = 1852$
3. $26\,300 - 14\,250 = 12\,050$
4. $8615 - 2763 = 5852$
5. $16\,528 - 7999 = 8529$
6. $27\,298 + 16\,597 = 43\,895$
7. $7595 - 4070 = 3525$
8. $37 + 46 + 85 + 78 = 246$
9. £193·60
10. £4957
11. £21 853, £37 153

Think. Answers will vary. Answers could involve the fact that the numbers are relatively close together so counting up will work. Written (column) subtraction will work easily as there's only 1 carry.

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1. $219 + 126 = 345$
2. $67\,423 - 28\,416 = 39\,007$
3. $12\,406 + 5092 = 17\,498$
4. $8429 + 34\,966 = 43\,395$
5. $10\,000 - 9417 = 583$
6. $476 - 298 = 178$
7. $721 + 63 + 490 = 1274$
8. $81\,307 - 15\,999 = 65\,308$
9. $346\,297 + 154\,832 = 501\,129$
10. $3\,498\,250 + 2\,200\,409$
    $= 5\,698\,659$
11. £52·80
12. 39 394, 7995

Think. Answers will vary. They might include few carries and be relatively close together.

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1. 10, 6
2. 2·74 m
3. 12, 14
4. 2·77 m
5. 4·6 cm or 46 mm
6. 3·145 kg or 3145 g
7. 4930

Think. Answers will vary.

Adding and subtracting decimals

Choose whether to use a mental strategy or a written method to work out each calculation.

1. $3 \cdot 9 + 2 \cdot 6 = 6 \cdot 5$
2. $35 \cdot 25 - 18 \cdot 63 = 16 \cdot 62$
3. $1 \cdot 84 - 0 \cdot 23 = 1 \cdot 61$
4. £16·88 + £3·47 = £20·35
5. $38 \cdot 65 + 7 \cdot 89 + 3 \cdot 25 = 49 \cdot 79$
6. $10 - 3 \cdot 47 = 6 \cdot 53$
7. $26 \cdot 74 + 0 \cdot 99 = 27 \cdot 73$
8. $4 \cdot 08 + 25 \cdot 61 = 29 \cdot 69$

9. $6 \cdot 04 - 1 \cdot 98 = 4 \cdot 06$
10. $352 \cdot 9 + 3 \cdot 45 = 356 \cdot 35$
11. $2 \cdot 2 - 0 \cdot 78 = 1 \cdot 42$
12. $6 \cdot 48 + 3 \cdot 57 = 10 \cdot 05$
13. $11 \cdot 03 - 9 \cdot 95 = 1 \cdot 08$
14. £20 − £6·89 = £13·11
15. $7 \cdot 5 + 3 \cdot 9 + 2 \cdot 8 = 14 \cdot 2$
16. $27 \cdot 43 - 18 \cdot 76 = 8 \cdot 67$

17. Check your answers using addition or subtraction. Make sure you are correct! E.g. $6 \cdot 5 - 2 \cdot 6 = 3 \cdot 9$, $18 \cdot 63 + 16 \cdot 62 = 35 \cdot 25$

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1. $3.86 + 135.72 = 209·58$
2. $9.6 - 3.75 = 5·85$
3. $8.5 - 2.69 = 5·81$
4. $68.37 + 164.78 = 233·15$
5. $0·75$ and $0·25$
6. $0·8$ and $-1·2$
7. $1·45$ l
8. $2·88$ m
9. $3·33$ kg
10. $57·05$ km per hour

Think. Possible answers: $48·15 + 16·56$, $38·15 + 26·56$, $28·15 + 36·56$, $18·15 + 46·56$

Open the Box **Answers**

Question	Answer
1.	Kieran needs to run 2500 metres. In the first ten minutes he runs 639 metres and in the second ten minutes he runs 794 metres. How much further does he still need to run?
	1067 metres
2.	Chocolate bar: £1.39 Pack of marshmallows: £2.47 Packet of sweets: £1.76 Special Offer: Any three items for £4.10 How much money will Len save by buying one of each item using the special offer?
	£1.52
3.	Yuan and Chan are trying to find out how many star jumps they can do in two minutes. In the first minute, Yuan completes 48 star jumps and in the second minute, he completes 56 star jumps. Chan completes 184 star jumps in two minutes. What is the difference between the amount of star jumps completed by Yuan and Chan?
	80
4.	Mrs Flood has 1938 pencils at the beginning of the school year. In term one, 348 pencils are used and in term two, 827 pencils are used. How many pencils are left remaining to use in term three?
	763
5.	Fish: £3.55 Chips: £1.29 Gravy: £0.75 Peas: £0.90 Nigel has £5. He wants to buy fish, chips and peas. How much more money will Nigel need?
	£0.74
6.	A bottle holds two litres of freshly squeezed orange juice. Denver fills three glasses with orange juice. He puts 170 millilitres in each glass. How much orange juice is left in the bottle?
	1490ml

Open the Box **Answers**

Question	Answer
1.	Toy car £12.49, Board game £25.38, Building blocks £34.39 Amil and Rikard want to buy one of each toy. Amil rounds the price of each toy to the nearest £10 and adds them together. Rikard adds the exact price of each toy together. What is the difference between Amil's and Rikard's total?
	£2.26
2.	Woolly hat: £11.75 Gloves: £4.95 Aydin has a twenty-pound and a ten-pound note. How much change will he receive if he buys two woolly hats and a pair of gloves?
	£1.55
3.	Miley and James each have some money. Altogether, they have £3.20. Miley gives James 20p so that they both have the same amount. How much money did they each have at the start?
	Miley: £1.80 James: £1.40
4.	Class A has a race. Kat's time is 47 seconds. Charlie finishes nine seconds before Kat. Maria finishes 14 seconds after Charlie. Birkir finishes 26 seconds before Maria. What is Birkir's time in seconds?
	26 seconds
5.	Cookies: £0.75 each Buns: £0.90 each Serji bought some cookies and buns. He spent £4.20. How many of each item did he buy?
	Three buns and two cookies
6.	Phoebe bought a ruler and a pencil. She paid £1.45. Leah bought a ruler and two pencils. She paid £1.80. How much does a ruler cost?
	£1.10

Open the Box **Answers**

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1.	Toy car £12.49, Board game £25.38, Building blocks £34.39 Amil and Rikard want to buy one of each toy. Amil rounds the price of each toy to the nearest £10 and adds them together. Rikard adds the exact price of each toy together. What is the difference between Amil's and Rikard's total?
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Extra Challenge **Answers**

Question	Answer
1.	The Pop-Up store has 2485 mugs at the beginning of the day. A further 1848 mugs are delivered. During the day, 4287 mugs are sold. How many mugs does the store have at the end of the day?
	46
2.	At the Pop-Up store, woolly hats cost £6.95, gloves cost £4.99 and scarves cost £13.48. Emma buys three hats, one set of gloves and two scarves. When she arrives at the till she is told that there is 20% off the total cost. How much change will she receive from £50?
	£7.76
3.	On the top shelf, there are 149 T-shirts, on the middle shelf there are 48 T-shirts and on the bottom shelf, there are 81 T-shirts. Each T-shirt costs the store £2.59 to purchase. If each T-shirt is sold to the customer for £12.50, how much profit will the store make if all of the T-shirts are sold?
	£2754.98
4.	Helen has £200. With her money, she would like to purchase a signed guitar priced £184.60. What could she purchase in the store so she will not have any change left over? Lanyard: £3.80 Phone case: £7.60 Poster: £1.15 Sticker: £0.10
	Multiple answers, e.g. two phone cases, two stickers

A farmer has 77 pigs, 123 sheep and 115 cows.
He buys 35 more pigs and 121 more sheep. He sells all of his cows.
How many animals has he got altogether?
= 356

Calculate:
(197 + 225) – (166 – 72) = 184

Mary collects marbles and wants to reach the target of 300.
She already has 64 yellow marbles, 47 red marbles, 42 green marbles and 28 purple marbles.
How many more marbles does she need?
= 119

Jane is washing cars for charity.
She washes 25 on Monday, 17 on Tuesday, 26 on Wednesday, 19 on Thursday and 28 on Friday.
How many cars has she washed altogether?
= 115

Make the two sides of the calculation balance
(653 – 176) = (562 - 85)

Add together:
111, 222, 333, 444
= 1110

Answers

Have you mastered solving problems?

a. 41·4 m

b. 100. You can work this out by using the inverse operations, subtracting 17 from 85 and then adding 32.

c. Answers will vary.

Champions' Challenge

1. 31 and 47
2. Any two numbers where the larger number is at least twice as much as the smaller number, and 471 comes exactly halfway between the two, for example 300 and 642.
3. Any two numbers that are more than 40 apart but less than 50 apart, and 471 comes exactly halfway between the two, for example 450 and 492.

CHALLENGES

Answers

Challenge 1 - star = 10, heart = 17, triangle = 0

Challenge 2 - A pencil costs 8p

Challenge 3 - Amir's number is 538, Donna's number is 853

Challenge 4 - Perimeter = 64 cm

Challenge 5 - The length is 480 cm

Challenge 6 - The height of the last tower is 23.9 cm

Challenge 7 - The fraction shaded is ⅝