Worksheet - Short multiplication and division

Year: Year 4 · 20

Show your working.

Question 1

Question 1 – Multiply by 10 and 100 *(Section A · Practice)*

Work out each answer. Use place value to help.

a. 64 × 10
b. 35 × 100
c. 7 × 60
d. 9 × 400
e. 8 × 300

Question 2

Question 2 – Short multiplication, 2 digits *(Section A · Practice)*

Use the short multiplication method. Estimate each answer first.

a. 23 × 4
b. 36 × 5
c. 48 × 6
d. 75 × 3

Question 3

Question 3 – Short multiplication, 3 and 4 digits *(Section A · Practice)*

Work out each multiplication with the short method. Check one of your answers by estimating.

a. 234 × 3
b. 405 × 6
c. 368 × 7
d. 1 245 × 4

Question 4

Question 4 – Short division, no remainder *(Section A · Practice)*

Use the bus stop method. Check each answer by multiplying.

a. 96 ÷ 4
b. 255 ÷ 5
c. 738 ÷ 6
d. 904 ÷ 8

Question 5

Question 5 – Division with a remainder *(Section A · Practice)*

Work out each division. Write the answer with a remainder and check it.

a. 85 ÷ 4
b. 157 ÷ 6
c. 362 ÷ 5
d. 790 ÷ 8

Question 6

Question 6 – Choose the operation *(Section A · Practice)*

Write each as a calculation, work it out and write the answer with a unit.

a. There are 6 rows of chairs with 28 chairs in each row. How many chairs?
b. A rope 144 cm long is cut into 4 equal pieces. How long is each piece?
c. A book costs £7. How much do 35 books cost?
d. There are 90 children and 8 children fit in each minibus. How many children are left over after the full minibuses leave?

Question 7

Question 7 – Pens for the class *(Section B · Real-life practice)*

Mr Evans buys stationery for his class. A pack of 8 pens costs £3. A box of 36 pencils costs £4. There are 7 classes in the school.

a. How many pens are in 7 packs?
b. How many pencils are in 7 boxes?
c. What does it cost to buy 7 packs of pens and 7 boxes of pencils?
d. Each class has 28 children and each child gets 1 pen. How many packs does one class need? How many pens are left over?

Question 8

Question 8 – Cycling to school *(Section B · Real-life practice)*

Zara cycles 135 metres to school each morning. On Saturdays she cycles 4 times that distance to the park. In total she cycles to school on 5 days a week.

a. How far does she cycle to school in one week (5 days)?

b. How far is the park from her house?
c. The road to the shop is 3 times as long as the road to school. How far is that?
d. Zara wants to cycle 1 000 m in a day. How many times does she need to cycle to school and back (a journey of 270 m)? Round up and explain.

Question 9

Question 9 – Sharing marbles *(Section B · Real-life practice)*

Olly has 144 marbles. He shares them equally into some bags. A friend gives Olly 6 more marbles for his birthday.

a. Olly puts the 144 marbles equally into 8 bags. How many marbles are in each bag?
b. Now Olly has 150 marbles. He puts them into 7 bags. How many are in each bag and how many are left?
c. Olly says that if he uses 6 bags for the 150 marbles, there will be none left over. Is he right?
d. Olly puts 25 marbles in each bag. How many full bags can he make with 150 marbles?

Question 10

Question 10 – Fencing the field *(Section B · Real-life practice)*

Farmer Jones builds a fence around a field. Each fence panel is 3 metres long and costs £9. The whole fence needs 78 panels.

a. How long is the fence in metres?
b. How much will all the panels cost?
c. The farmer has £500. Does he have enough money? How much is left or needed?
d. He also needs 4 gates costing £65 each. How much do the gates cost?

Question 11

Question 11 – Baking trays *(Section B · Real-life practice)*

A baker bakes 8 trays of bread rolls. There are 24 rolls on each tray. He packs the rolls into bags of 6.

a. How many rolls does he bake?
b. How many bags of 6 can he fill?
c. The baker sells each bag for £2. How much does he get for all the bags?
d. A school orders 150 rolls. How many bags does it need? How many extra rolls will it get?

Question 12

Question 12 – Buying sweets for the fair *(Section B · Real-life practice)*

The class is buying sweets for the school fair. A bag of jelly sweets holds 45 sweets and costs £3. A tube of chocolate drops holds 36 drops and costs £2. The class buys 8 bags and 9 tubes.

a. How many jelly sweets does the class buy?
b. How many chocolate drops does the class buy?
c. What is the total cost?
d. The class makes small gift bags with 9 jelly sweets in each. How many gift bags can be filled from the jelly sweets?

Question 13

Question 13 – Football tickets *(Section B · Real-life practice)*

The Wilson family buy tickets for a football match. An adult ticket costs £12 and a child ticket costs £7. They are 2 adults and 5 children. A programme costs £3 for each person.

a. How much do the adult tickets cost?
b. How much do the child tickets cost?
c. What is the total cost of tickets and programmes?
d. They have £100. How much change do they get?

Question 14

Question 14 – Library shelves *(Section B · Real-life practice)*

The school library has 9 shelves of picture books. There are 125 books on each shelf. The library also has 6 boxes of 48 books waiting to be put on shelves.

a. How many picture books are on the shelves?
b. How many books are in the boxes?
c. How many books are there in total?
d. The librarian wants to put all the books in the boxes onto 8 new shelves, with the same number on each shelf. How many books does she put on each shelf?

Question 15

Question 15 – School trip planning *(Section C · Problem solving)*

Year 4 and Year 5 are going on a trip to the science museum. The coaches each hold 52 passengers. The table shows the numbers going.

Group	Number going
Year 4 pupils	94

Group	Number going
Year 5 pupils	87
Teachers and helpers	19

a. How many people are going altogether?
b. How many coaches are needed? Explain your answer.
c. Entry to the museum costs £8 per pupil. Teachers and helpers go free. How much do the pupils pay?
d. The museum shop sells pencils in packs of 6 at £2 a pack. The teacher buys one pencil for each pupil. How many packs does she buy and how much do they cost? (Remember to round up.)

Question 16

Question 16 – The garden centre *(Section C · Problem solving)*

A garden centre sells plants in trays. The table shows the price of each tray and the number of trays sold on Saturday.

Plant	Plants in a tray	Price per tray	Trays sold
Tulips	6	£4	23
Daisies	8	£5	17
Roses	4	£9	12

a. How many tulips were sold on Saturday?
b. How much money did the daisies bring in?
c. What was the total money for all three plants?
d. The manager says that the roses brought in more money than the tulips. Is she right? By how much?
e. The garden centre wants to plant 100 daisies in 8 equal rows. Can it do this? What is the problem?

Question 17

Question 17 – Pocket money plan *(Section C · Problem solving)*

Imran saves money in a jar. In January he saves £8 each week for 4 weeks. In February he saves £6 each week for 4 weeks. He wants to buy a bike that costs £95.

a. How much does he save in January?
b. How much does he save in February?
c. How much has he saved in total? Is it enough to buy the bike?
d. If he carries on saving £7 each week, how many more weeks does he need to afford the bike? (Round up.)
e. Imran’s sister says, "If I save £5 each week it will take me 19 weeks to save £95." Is she right? Explain.

Question 18

Question 18 – Recipe for the party *(Section C · Problem solving)*

Amira is planning a party for 24 children. A recipe for 8 cupcakes needs 120 g of flour, 96 g of sugar and 3 eggs.

Ingredient	For 8 cupcakes	For 24 cupcakes
Flour	120 g	?
Sugar	96 g	?
Eggs	3	?

a. How many times bigger is a batch for 24 cupcakes?
b. Complete the last column of the table.
c. A bag of flour holds 1 500 g. How many full batches of 24 cupcakes can she make with one bag?
d. She has 12 eggs. How many full batches of 24 cupcakes can she make with the eggs?
e. Eggs are sold in boxes of 6. How many boxes does she need for 4 batches?

Question 19

Question 19 – The sports club *(Section C · Problem solving)*

A sports club runs football sessions. Each session has 24 children. The club runs 6 sessions in a week. Each child pays £4 per session. The coach is paid £90 per week. The club also spends £35 on new footballs each week.

a. How many children come in one week?
b. How much money does the club collect in one week?
c. What are the weekly costs? How much money is left as profit?
d. The club wants to share the profit equally between 4 charities. How much does each charity get? Is there any money left over?
e. Next week, 3 sessions are cancelled. How many children come then, and does the club still make a profit?

Question 20

Question 20 – Challenge: digit cards *(Section D · Challenge)*

Use each of the digit cards 3, 4, 6 and 8 once to make a 3-digit number and a 1-digit number. Then multiply them together.

a. Find the multiplication with the largest possible answer.
b. Find the multiplication with the smallest possible answer.
c. Explain your strategy. Why is 863 × 4 not the largest?