

Name _____

Date _____

4.3 Multiplying decimals — worksheet

Multiply decimals by whole numbers, and by other decimals. · 56 questions · Show your working.

Remember

- **Step 1.** Do the multiplication **ignoring the decimal point**.
- **Step 2.** Count the decimal places in the **question**.
- **Step 3.** Put the same number of decimal places in the **answer**.
- 0.002×4 : $2 \times 4 = 8$, and the question has 3 decimal places, so the answer is 0.008.
- 30×0.06 : $30 \times 6 = 180$, and the question has 2 decimal places, so the answer is $1.80 = 1.8$.
- You can drop a zero at the **end** of the answer, but never one in the middle.
- Multiplying by a number **less than 1 makes the answer smaller**: $0.4 \times 0.7 = 0.28$.
- Estimate first to check the point is in the right place.

A · Fluency — Multiply decimals, small and large.

1 Work out 0.002×4

2 Work out 30×0.06

3 Work out 0.3×7

4 Work out 0.05×9

5 Work out 1.2×6

6 Work out 2.4×3

7 Work out 0.7×8

8 Work out 4.5×4

9 Work out 0.25×8

10 Work out 1.5×12

11 Work out 0.09×5

12 Work out 3.6×7

13 Work out 476×3.7

14 Work out 234×1.5

15 Work out 128×2.4

16 Work out 305×0.6

17 Work out 47×8.2

18 Work out 156×3.5

19 Work out 89×4.6

20 Work out 512×0.25

21 Work out 63×7.4

22 Work out 204×1.25

23 Work out 37×9.6

24 Work out 425×0.8

B · Reasoning — Placing the point, and when answers shrink.

25 What is the first step when multiplying a decimal by a whole number?

- ☐ Round the decimal
- ☐ Do the multiplication without the decimal point
- ☐ Divide by 10
- ☐ Line up the decimal points

26 How do you know where to put the decimal point in the answer?

- ☐ Count the digits in the question
- ☐ The answer has as many decimal places as the question
- ☐ Put it in the middle
- ☐ Round to 2 decimal places

27 How many digits are after the decimal point in the answer to 0.002×4 ?

28 How many digits are after the decimal point in the answer to 30×0.06 ?

29 Work out 30×0.06 and write the answer without an unnecessary zero.

30 Is 1.80 the same as 1.8?

- ☐ Yes
- ☐ No

31 Given that $476 \times 37 = 17\,612$, work out 476×3.7 .

32 Given that $476 \times 37 = 17\,612$, work out 4.76×3.7 .

33 Zara says $0.5 \times 0.5 = 2.5$. Is she right?

☐ Yes

☐ No

34 Does multiplying by 0.5 make a number bigger?

☐ Yes

☐ No

35 Find the missing number: $0.4 \times ? = 2.8$

36 Work out 0.25×8 and check it is a quarter of 8.

C · Challenge — Decimal $\times$ decimal, areas and reversing.

37 Work out 1.2×1.5 .

38 Work out 0.4×0.7 .

39 Work out 2.5×2.5 .

40 Work out $476 \times 3.7 - 476 \times 0.7$.

41 A rectangle is 4.5 cm by 6 cm. What is its area, in cm^2 ?

42 A square has side 1.5 m. What is its area, in m^2 ?

43 Work out $0.002 \times 4 \times 1000$.

44 A number multiplied by 0.6 gives 4.2. What is the number?

D · Word problems — Costs, masses and areas.

45 A pen costs \$1.25. How much do 6 pens cost, in dollars?

46 One brick weighs 2.4 kg. What is the mass of 15 bricks, in kg?

47 A car uses 7.5 litres of fuel per 100 km. How much for 400 km, in litres?

48 A ribbon is 0.85 m long. How long are 12 ribbons, in metres?

49 A worker earns \$12.60 an hour. How much for 8 hours, in dollars?

50 A tile is 0.3 m wide. How wide is a row of 25 tiles, in metres?

51 A bottle holds 1.5 litres. How much is in 24 bottles, in litres?

52 A phone call costs \$0.06 a minute. How much for 30 minutes, in dollars?

53 A plank is 3.6 m long. How long are 7 planks laid end to end, in metres?

54 A dose of medicine is 0.002 litres. How much is 4 doses, in litres?

55 A field is 47 m by 8.2 m. What is its area, in m^2 ?

56 A shop sells 156 bags of rice at 3.5 kg each. What is the total mass, in kg?
