

Year 6

# Multiply One-digit Numbers with Decimal Places

## Challenge Cards



Multiply One-digit Numbers with Decimal Places

1. Pavel says, "I can use  $4 \times 23$  to multiply  $0.04 \times 23$ ."

Explain how Pavel could use  $4 \times 23$  to multiply  $0.04 \times 23$ .

Write a real-life example to illustrate your explanation.



Multiply One-digit Numbers with Decimal Places

2. Nikita needs to find all the single-digit decimal numbers up to 2 decimal places and whole numbers whose product is 3.6.

Work alone or with a partner to help Nikita.



Multiply One-digit Numbers with Decimal Places

3. George needs to find all the single-digit decimal numbers up to 2 decimal places and whole numbers whose product is 1.5.

Work alone or with a partner to help George.



Multiply One-digit Numbers with Decimal Places

4. Pavel needs to find all the single-digit decimal numbers up to 2 decimal places and whole numbers whose product is 6.4.

Work alone or with a partner to help Pavel.



Multiply One-digit Numbers with Decimal Places

5. Nikita says, “4.7 cannot be the product of a one-digit number up to two decimal places and a whole number because 47 is a prime number.”

Work alone or with a partner to explain why Nikita is not correct.



Multiply One-digit Numbers with Decimal Places

6. George asks, “If  $0.03 \times 16 = 0.48$ , then what other numbers, with up to 2 decimal places, can I find whose product is 0.48 using this calculation?”



Multiply One-digit Numbers with Decimal Places

7. Pavel asks, “If  $0.07 \times 48 = 3.36$ , then what other numbers, with up to 2 decimal places, can I find whose product is 3.36 using this calculation?”



Multiply One-digit Numbers with Decimal Places

8. Nikita asks, "If  $0.6 \times 239 = 143.4$ , then what other numbers, with up to 2 decimal places, can I find whose product is 143.4 using this calculation?"



Multiply One-digit Numbers with Decimal Places

9. George has 4 digit cards.

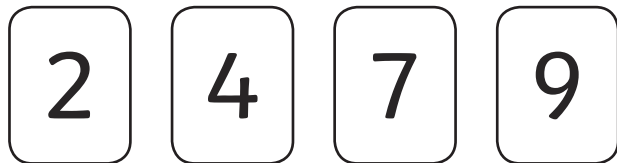


Find the largest and smallest product using three of the above digits in the following three boxes:

$$0.0 \square \times \square \square$$

Multiply One-digit Numbers with Decimal Places

10. George has 4 digit cards.



Find the largest and smallest product using all of the above digits in the following four boxes:

$$0.0 \square \times \square \square \square$$

# Year 6 Multiply Fractions Answers

1. Explain how Pavel could use  $4 \times 23$  to multiply  $0.04 \times 23$ .

$$4 \times 23 = 92$$

$$0.4 \times 23 = 9.2$$

$$0.04 \times 23 = 0.92$$

**Multiple real-life examples, e.g. Pavel buys 23 pencils that cost £0.04 each. How much do they cost altogether?**

$$\text{£}0.04 \times 23 = \text{£}0.92$$

2. Nikita needs to find all the single-digit decimal numbers up to 2 decimal places and whole numbers whose product is 3.6.

$$0.6 \times 6$$

$$0.09 \times 40$$

$$0.06 \times 60$$

$$0.1 \times 36$$

$$0.4 \times 9$$

$$0.01 \times 360$$

$$0.04 \times 90$$

$$0.05 \times 72$$

$$0.9 \times 4$$

3. George needs to find all the single-digit decimal numbers up to 2 decimal places and whole numbers whose product is 1.5.

$$0.3 \times 5$$

$$0.05 \times 30$$

$$0.03 \times 50$$

$$0.1 \times 15$$

$$0.5 \times 3$$

$$0.01 \times 150$$

4. Pavel needs to find all the single-digit decimal numbers up to 2 decimal places and whole numbers whose product is 6.4.

$$0.8 \times 8$$

$$0.02 \times 320$$

$$0.08 \times 80$$

$$0.1 \times 64$$

$$0.4 \times 16$$

$$0.01 \times 640$$

$$0.04 \times 160$$

$$0.05 \times 128$$

$$0.2 \times 32$$

5. Nikita says, "4.7 cannot be the product of a one-digit number up to two decimal places and a whole number because 47 is a prime number."

$$94 \times 0.05 = 4.7$$

6. George asks, "If  $0.03 \times 16 = 0.48$ , then what other numbers, with up to 2 decimal places, can I find whose product is 0.48 using this calculation?"

$$0.3 \times 1.6$$

$$3 \times 0.16$$

7. Pavel asks, "If  $0.07 \times 48 = 3.36$ , then what other numbers, with up to 2 decimal places, can I find whose product is 3.36 using this calculation?"

$$0.7 \times 4.8$$

$$7 \times 0.48$$

8. Nikita asks, "If  $0.6 \times 239 = 143.4$ , then what other numbers, with up to 2 decimal places, can I find whose product is 143.4 using this calculation?"

$$0.06 \times 2390$$

$$6 \times 23.9$$

$$60 \times 2.39$$

9. Find the largest and smallest product using three of the above digits in the following three boxes:

$$0.08 \times 65 = 5.2, 0.03 \times 56 = 1.68$$

10. Find the largest and smallest product using all of the above digits in the following four boxes:

$$0.09 \times 742 = 66.78, 0.02 \times 479 = 9.58$$