

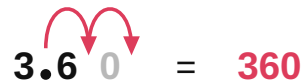
Boost Free Lessons - Year 6 Maths

Lesson 10: Multiplying and Dividing Decimals by 10, 100 and 1000

Name: _____ Grade: _____ Date: _____

Worked Example 1

Work out 3.6×100 .


$$3.6 \text{ } 0 = 360$$

the decimal point moves 2 places right

1. Multiplying makes the number **bigger**, so the decimal point moves to the **right**.
2. There are two zeros in 100, so the point moves **2 places right**.
3. 3.6 becomes 36. then 360. There are not enough digits, so write a zero to fill the gap.
4. The point now sits after the 0, so we simply write 360.

$$3.6 \times 100 = 360$$

Worked Example 2

Work out $45 \div 1000$.


$$0 \text{ } 0 \text{ } 4 \text{ } 5. = 0.045$$

the decimal point moves 3 places left

1. Dividing makes the number **smaller**, so the decimal point moves to the **left**.
2. 45 is really 45. with the point after the 5.
3. There are three zeros in 1000, so the point moves **3 places left**.
4. 45. becomes 4.5 then .45 then .045. Write a zero in front of the point: 0.045.

$$45 \div 1000 = 0.045$$

Remember: **Multiplying** makes a number bigger, so the decimal point moves **right**. **Dividing** makes it smaller, so the point moves **left**. Count the zeros to know how many places.



Question 1: Work out the following.

1. 2.4×10

2. 0.35×100

3. 1.8×1000

4. 0.07×10

5. $56 \div 10$

6. $8.2 \div 100$

7. $375 \div 1000$

8. $0.9 \div 10$



Question 2: Answer the following.

1. Work out 0.006×1000 .

2. Work out $12.5 \div 100$.

3. Work out 4.07×100 .

4. Work out $0.4 \div 1000$.

5. Which is larger: 0.6×100 or $600 \div 10$?

6. Explain why 2.5×100 is not 2.500.



Question 3: Answer the following questions.

1. A pencil costs \$0.45. What is the cost of 100 pencils?
2. 1 000 identical seeds weigh 6.5 g in total. What does one seed weigh?
3. A tap delivers 0.75 litres per second. How much in 100 seconds?
4. A roll of wire is 250 m long and is cut into 1 000 equal pieces. How long is each piece?
5. A stack of 10 sheets of card is 2.4 mm thick. How thick is one sheet?





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Answers: Multiplying and Dividing Decimals by 10, 100 and 1000

Question 1

1. 24
2. 35
3. 1 800
4. 0.7
5. 5.6
6. 0.082
7. 0.375
8. 0.09

Question 2

1. 6
2. 0.125
3. 407
4. 0.0004
5. They are equal, both 60
6. The decimal point moves two places right, giving 250. Adding zeros after the point does not make a number bigger.

Question 3

1. \$45
2. 0.0065 g
3. 75 litres
4. 0.25 m
5. 0.24 mm

