Dividing by a Decimal

Name: _____

Grade 5 · Make the divisor a whole number, then divide

How it works

A division keeps the same answer when you multiply **both** numbers by 10, or both by 100.
Multiply both so that the divisor becomes a whole number.
Then divide as usual.

4.8 ÷ 0.6 = 48 ÷ 6 = 8

3 ÷ 0.05 = 300 ÷ 5 = 60

0.72 ÷ 0.09 = 72 ÷ 9 = 8

Check: 8 × 0.6 = 4.8

A. Multiply both numbers by 10 or 100 to make the divisor a whole number. Then divide.

1. **4.2 ÷ 0.7 = _____ ÷ _____ = _____**
2. **6 ÷ 0.2 = _____ ÷ _____ = _____**
3. **0.81 ÷ 0.09 = _____ ÷ _____ = _____**
4. **3.5 ÷ 0.5 = _____ ÷ _____ = _____**
5. **12 ÷ 0.3 = _____ ÷ _____ = _____**
6. **0.64 ÷ 0.08 = _____ ÷ _____ = _____**
7. **7.2 ÷ 0.6 = _____ ÷ _____ = _____**
8. **2 ÷ 0.04 = _____ ÷ _____ = _____**
9. **9.9 ÷ 0.9 = _____ ÷ _____ = _____**
10. **1.56 ÷ 0.12 = _____ ÷ _____ = _____**
11. **5.6 ÷ 0.07 = _____ ÷ _____ = _____**
12. **0.9 ÷ 0.3 = _____ ÷ _____ = _____**

B. Find each quotient. Look for the pattern.

1. **24 ÷ 6 = _____**
2. **24 ÷ 0.6 = _____**
3. **24 ÷ 0.06 = _____**
4. **35 ÷ 7 = _____**
5. **35 ÷ 0.7 = _____**
6. **35 ÷ 0.07 = _____**

7. When the divisor is divided by 10, the quotient is _____ times as large.

C. Solve. Write a division equation for each story.

1. A ribbon is 3.6 meters long. It is cut into pieces that are each 0.4 meter long. How many pieces are there?

Answer: _____

2. A jug holds 2 liters of juice. Each glass holds 0.25 liter. How many glasses can be filled?

Answer: _____

Dividing by a Decimal (Answer Key)

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How it works

A division keeps the same answer when you multiply **both** numbers by 10, or both by 100.
Multiply both so that the divisor becomes a whole number.
Then divide as usual.

4.8 ÷ 0.6 = 48 ÷ 6 = 8

3 ÷ 0.05 = 300 ÷ 5 = 60

0.72 ÷ 0.09 = 72 ÷ 9 = 8

Check: 8 × 0.6 = 4.8

A. Multiply both numbers by 10 or 100 to make the divisor a whole number. Then divide.

1. **4.2 ÷ 0.7 = 42 ÷ 7 = 6**
2. **6 ÷ 0.2 = 60 ÷ 2 = 30**
3. **0.81 ÷ 0.09 = 81 ÷ 9 = 9**
4. **3.5 ÷ 0.5 = 35 ÷ 5 = 7**
5. **12 ÷ 0.3 = 120 ÷ 3 = 40**
6. **0.64 ÷ 0.08 = 64 ÷ 8 = 8**
7. **7.2 ÷ 0.6 = 72 ÷ 6 = 12**
8. **2 ÷ 0.04 = 200 ÷ 4 = 50**
9. **9.9 ÷ 0.9 = 99 ÷ 9 = 11**
10. **1.56 ÷ 0.12 = 156 ÷ 12 = 13**
11. **5.6 ÷ 0.07 = 560 ÷ 7 = 80**
12. **0.9 ÷ 0.3 = 9 ÷ 3 = 3**

Part A: multiplying both numbers by 100 when 10 would do is right too, such as 420 ÷ 70 = 6.

B. Find each quotient. Look for the pattern.

1. **24 ÷ 6 = 4**
2. **24 ÷ 0.6 = 40**
3. **24 ÷ 0.06 = 400**
4. **35 ÷ 7 = 5**
5. **35 ÷ 0.7 = 50**
6. **35 ÷ 0.07 = 500**
7. When the divisor is divided by 10, the quotient is **10** times as large.

C. Solve. Write a division equation for each story.

1. A ribbon is 3.6 meters long. It is cut into pieces that are each 0.4 meter long. How many pieces are there?

3.6 ÷ 0.4 = 9

Answer: **9 pieces**

2. A jug holds 2 liters of juice. Each glass holds 0.25 liter. How many glasses can be filled?

2 ÷ 0.25 = 8

Answer: **8 glasses**