Multiplying Decimals: Where Does the Point Go?

Name: _____

Grade 5 · Place the decimal point in a product and check it with an estimate

How it works

Multiply as if both numbers were whole numbers. Then count the digits after the decimal point in **both** factors together. The product gets that many digits after its point.

A zero at the end can then be dropped: 0.060 = 0.06.

Check with an estimate: 0.4 × 0.7 must be less than 0.4.

0.4 × 0.7

4 × 7 = 28

1 place + 1 place = 2 places

0.4 × 0.7 = 0.28

A. The whole-number product is given. Write the decimal product.

1. 34 × 12 = 408, so **3.4 × 1.2 =** _____
2. 6 × 9 = 54, so **0.6 × 0.9 =** _____
3. 25 × 3 = 75, so **2.5 × 0.3 =** _____
4. 7 × 8 = 56, so **0.7 × 0.08 =** _____
5. 46 × 23 = 1,058, so **4.6 × 2.3 =** _____
6. 15 × 4 = 60, so **0.15 × 0.4 =** _____
7. 18 × 7 = 126, so **1.8 × 0.7 =** _____
8. 62 × 14 = 868, so **6.2 × 1.4 =** _____
9. 9 × 3 = 27, so **0.09 × 0.3 =** _____
10. 123 × 2 = 246, so **12.3 × 0.2 =** _____
11. 5 × 5 = 25, so **0.5 × 0.5 =** _____
12. 81 × 6 = 486, so **8.1 × 0.06 =** _____

B. Estimate first. Then circle the product that makes sense.

1. **4.8 × 3.1** — 1.488 · 14.88 · 148.8
2. **0.5 × 6.4** — 3.2 · 0.32 · 32
3. **9.7 × 0.2** — 19.4 · 0.194 · 1.94
4. **2.05 × 4.1** — 8.405 · 84.05 · 0.8405
5. **0.9 × 0.8** — 7.2 · 0.72 · 0.072
6. **15.2 × 1.5** — 2.28 · 228 · 22.8
7. **7.4 × 0.5** — 0.37 · 3.7 · 37
8. **0.3 × 0.3** — 0.9 · 0.009 · 0.09

C. Explain.

Lena says 0.3 × 0.2 = 0.6. Is she right? Tell how you know.

Multiplying Decimals: Where Does the Point Go? (Answer Key)

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How it works

Multiply as if both numbers were whole numbers. Then count the digits after the decimal point in **both** factors together. The product gets that many digits after its point.

A zero at the end can then be dropped: 0.060 = 0.06.

Check with an estimate: 0.4 × 0.7 must be less than 0.4.

0.4 × 0.7

4 × 7 = 28

1 place + 1 place = 2 places

0.4 × 0.7 = 0.28

A. The whole-number product is given. Write the decimal product.

1. 34 × 12 = 408, so **3.4 × 1.2 =** **4.08**
2. 6 × 9 = 54, so **0.6 × 0.9 =** **0.54**
3. 25 × 3 = 75, so **2.5 × 0.3 =** **0.75**
4. 7 × 8 = 56, so **0.7 × 0.08 =** **0.056**
5. 46 × 23 = 1,058, so **4.6 × 2.3 =** **10.58**
6. 15 × 4 = 60, so **0.15 × 0.4 =** **0.06**
7. 18 × 7 = 126, so **1.8 × 0.7 =** **1.26**
8. 62 × 14 = 868, so **6.2 × 1.4 =** **8.68**
9. 9 × 3 = 27, so **0.09 × 0.3 =** **0.027**
10. 123 × 2 = 246, so **12.3 × 0.2 =** **2.46**
11. 5 × 5 = 25, so **0.5 × 0.5 =** **0.25**
12. 81 × 6 = 486, so **8.1 × 0.06 =** **0.486**

B. Estimate first. Then circle the product that makes sense.

1. **4.8 × 3.1** — 1.488 · **(14.88)** · 148.8
2. **0.5 × 6.4** — **(3.2)** · 0.32 · 32
3. **9.7 × 0.2** — 19.4 · 0.194 · **(1.94)**
4. **2.05 × 4.1** — **(8.405)** · 84.05 · 0.8405
5. **0.9 × 0.8** — 7.2 · **(0.72)** · 0.072
6. **15.2 × 1.5** — 2.28 · 228 · **(22.8)**
7. **7.4 × 0.5** — 0.37 · **(3.7)** · 37
8. **0.3 × 0.3** — 0.9 · 0.009 · **(0.09)**

C. Explain.

Lena says 0.3 × 0.2 = 0.6. Is she right? Tell how you know.

No. 3 × 2 = 6, and the two factors have two decimal places in all, so 0.3 × 0.2 = 0.06.

Also, 0.3 × 0.2 has to be less than 0.3, and 0.6 is more.