Divide a Decimal by a Decimal

Divide 2.5 ÷ 0.8 = *n*.

Step 1: Multiply the divisor and the dividend by the same power of 10.

$$0.8\overline{)2.5}$$

$$\xrightarrow{\times 10}$$
$$\frac{2.5}{0.8} = \frac{25}{8}$$ This makes the divisor a whole number.
$$\xrightarrow{\times 10}$$

Multiplying by 10 "moves" the decimal point one place to the right.

$$08.\overline{)25.}$$

Step 2: Divide. Add zeros, if needed, and keep dividing.

```
        3 125
08.)25.000
   − 24
      1 0
     − 8
       20
     − 16
       40
```

Step 3: Place the decimal point in the quotient so it is directly over the decimal point in the dividend.

```
       3.125
08.)25.000
   − 24
     10
    − 8
      20
    − 16
      40
```

Divide. Check that your answer is reasonable.

1. $0.9\overline{)1.8}$

2. $0.8\overline{)4.8}$

3. $2.4\overline{)8.76}$

4. $0.6\overline{)8.4}$

5. $60 \div 1.5$

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6. $77 \div 3.5$

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7. $2.45 \div 0.7$

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8. $2.07 \div 2.3$

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Use with text pages 368–369.