## Problem Set Sample Solutions

**Round to estimate the quotient. Then, compute the quotient using a calculator, and compare the estimate to the quotient.**

*Estimates may vary.*

1. $715 \div 11$

   *Estimate:.* $700 \div 10 = 70$

   *Quotient:* $715 \div 11 = 65$

   *Comparison: Since the dividend is very close to a multiple of ten, the quotient is very close to the estimate.*

2. $7,884 \div 12$

   *Estimate:* $8,000 \div 10 = 800$

   *Quotient:* $7,884 \div 12 = 657$

   *Comparison: The dividend is close to a multiple of ten, so the quotient is close to the estimate.*

3. $9,646 \div 13$

   *Estimate:* $10,000 \div 10 = 1,000$

   *Quotient:* $9,646 \div 13 = 742$

   *Comparison: The dividend is somewhat close to a multiple of ten, so the quotient is fairly close to the estimate.*

4. $11,942 \div 14$

   *Estimate:* $12,000 \div 10 = 1,200$

   *Quotient:* $11,942 \div 14 = 853$

   *Comparison: The dividend is not as close to a multiple of ten, so the quotient is not nearly as close to the estimate as dividends that are closer to a multiple of ten.*

5. $48,825 \div 15$

   *Estimate:* $50,000 \div 10 = 5,000$

   *Quotient:* $48,825 \div 15 = 3,255$

   *Comparison: The dividend is midway between multiples of ten. The quotient is in the same place value but is not as close to the estimate as dividends that are closer to a multiple of ten.*

6. $135,296 \div 16$

   *Estimate:* $140,000 \div 20 = 7,000$

   *Quotient:* $135,296 \div 16 = 8,456$

   *Comparison: The dividend is not as close to a multiple of ten, so the quotient is not nearly as close to the estimate as dividends that are closer to a multiple of ten.*

7. $199,988 \div 17$

*Estimate:* $200,000 \div 20 = 10,000$

*Quotient:* $199,998 \div 17 = 11,764$

*Comparison: The dividend is somewhat close to a multiple of ten, so the quotient is fairly close to the estimate.*

8. $116,478 \div 18$

*Estimate:* $120,000 \div 20 = 6,000$

*Quotient:* $116,478 \div 18 = 6,471$

*Comparison: The dividend is close to a multiple of ten, so the quotient is close to the estimate.*

9. $99,066 \div 19$

*Estimate:* $100,000 \div 20 = 5,000$

*Quotient:* $99,066 \div 19 = 5,214$

*Comparison: Since the dividend is very close to a multiple of ten, the quotient is very close to the estimate.*

10. $181,800 \div 20$

*Estimate:* $180,000 \div 20 = 9,000$

*Quotient:* $181,800 \div 20 = 9,090$

*Comparison: Since the divisor is a multiple of ten, the quotient is almost exactly the same as the estimate.*