

## Estimate Quotients Using Compatible Numbers

**Compatible numbers** are numbers that are easy to compute mentally. In division, one compatible number divides evenly into the other. Think of the multiples of a number to help you find compatible numbers.

**Estimate.**  $6 \overline{)216}$

**Step 1** Think of these multiples of 6:

6      12      18      24      30      36      42      48      54

Find multiples that are close to the first 2 digits of the dividend.

18 tens and 24 tens are both close to 21 tens. You can use either or both numbers to estimate the quotient.

**Step 2** Estimate using compatible numbers.

$$216 \div 6$$



$$180 \div 6 = 30$$

$$216 \div 6$$



$$240 \div 6 = 40$$

So,  $216 \div 6$  is between 30 and 40.

**Step 3** Decide whether the estimate is closer to 30 or 40.

$$216 - 180 = 36$$

$$240 - 216 = 24$$

216 is closer to 240, so use 40 as the estimate.

Use compatible numbers to estimate the quotient.

**1**  $3 \overline{)252}$

\_\_\_\_\_

**2**  $6 \overline{)546}$

\_\_\_\_\_

**3**  $4 \overline{)2,545}$

\_\_\_\_\_

**4**  $5 \overline{)314}$

\_\_\_\_\_

**5**  $2 \overline{)1,578}$

\_\_\_\_\_

**6**  $8 \overline{)289}$

\_\_\_\_\_