

**Example 1** We can also use estimates before we divide to help us solve division problems. In this lesson we will be using estimation to help us divide two numbers using the division algorithm.

**Estimate the quotient of  $8,085 \div 33$ . Then divide.**

- How could I round these numbers to get an estimate?
  - There are many possible solutions. Here are an example of some responses:  
 $8,000 \div 30$ ,  $8,000 \div 35$ ,  $8,100 \div 30$ ,  $8,100 \div 35$ .

$8100 \div 30 = 270$

Why is 8100 and 30 the best option?

- 3 is NOT a factor of 8, but it is a factor of 81.

**How can we use this to help us divide 8,085 and 33?**

- When I begin to divide, I use 270 to help me choose what numbers to divide by. My actual answer should be near 270.

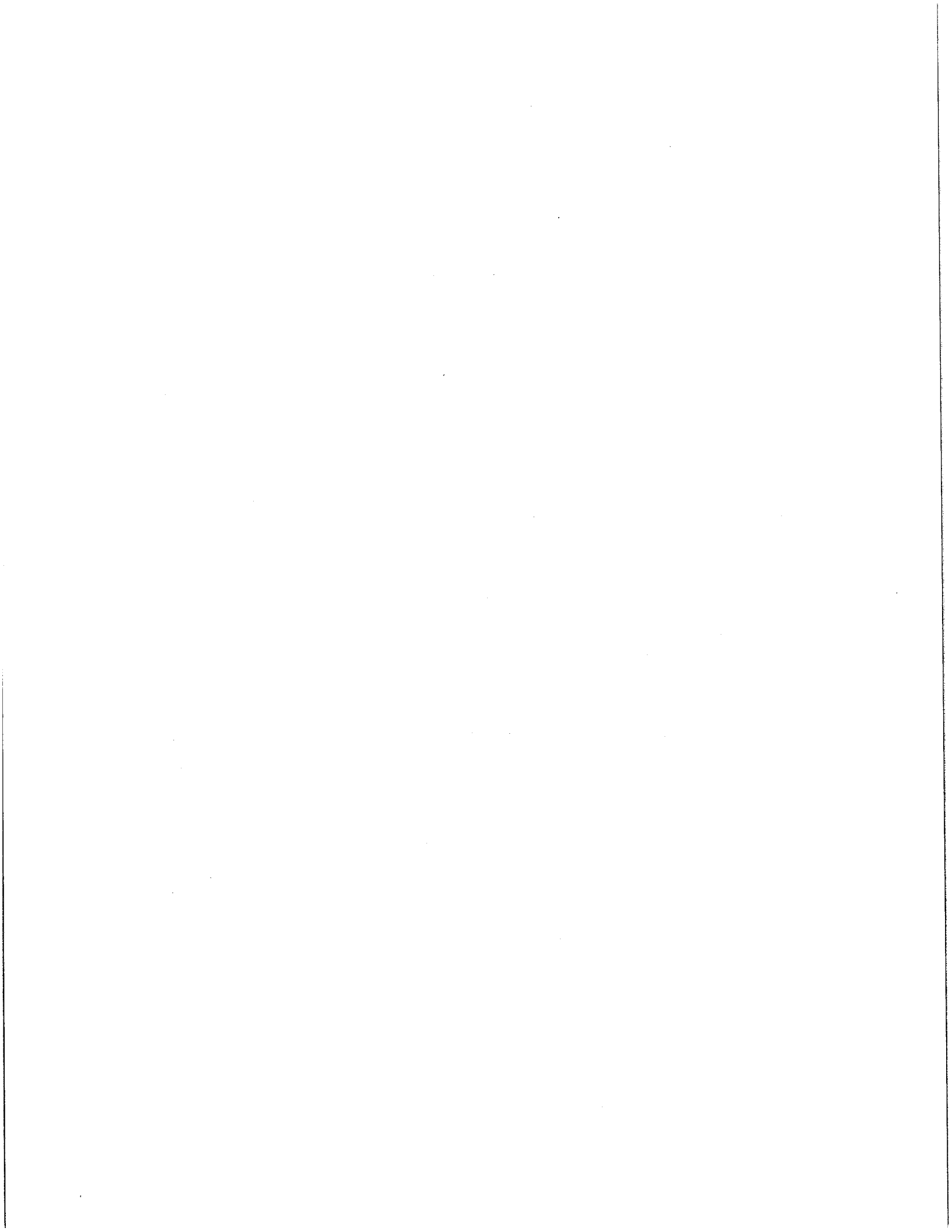
Solve for the actual quotient of  $8,085 \div 33$ .

D  
M  
B  
R

$$\begin{array}{r}
 245 \\
 33 \overline{) 8085} \\
 \underline{66} \phantom{00} \\
 148 \phantom{0} \\
 \underline{132} \phantom{0} \\
 165 \\
 \underline{165} \\
 0
 \end{array}$$

Check:

$$\begin{array}{r}
 245 \text{ - quotient} \\
 \times 33 \text{ - divisor} \\
 \hline
 735 \\
 + 7350 \\
 \hline
 8085 \text{ - dividend}
 \end{array}$$



1.  $1,008 \div 48 = 21$

- a. Estimate the quotient.

$$1000 \div 50 = 20$$

- b. Use the algorithm to divide.

$$48 \overline{)1008}$$

- c. Check your work.

2.  $2,156 \div 28 = 77$

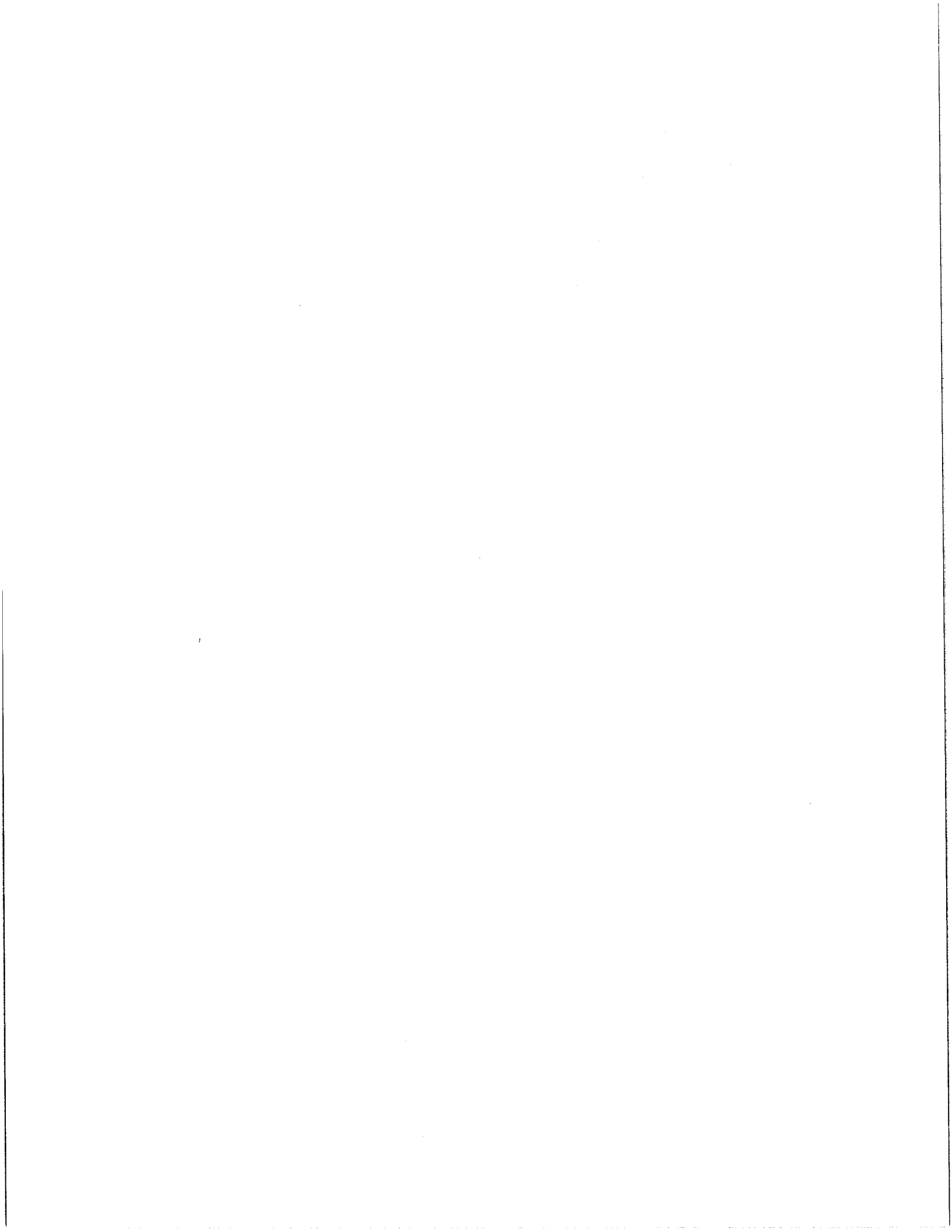
- a. Estimate the quotient.

$$2100 \div 30 = 70$$

- b. Use the algorithm to divide.

$$28 \overline{)2156}$$

- c. Check your work.



Name \_\_\_\_\_ Date \_\_\_\_\_

1.  $3,312 \div 48 = 69$

a. Estimate the quotient.

b. Use the algorithm to divide.

c. Check your work.

2.  $3,125 \div 25 = 125$

a. Estimate the quotient.

b. Use the algorithm to divide.

c. Check your work.

3.  $1,344 \div 14 = 96$

a. Estimate the quotient.

b. Use the algorithm to divide.

c. Check your work.

4.  $2,508 \div 33 \approx 76$

a. Estimate the quotient.

b. Use the algorithm to divide.

c. Check your work.



Review:

5. A car drives with a constant speed of 56 miles per hour. How far can it travel in 4 hours?
6. Brown has his own bakery. He baked 5 cakes per day. Due to the occasion of Christmas, he started to bake 12 cakes per day. In the whole Christmas ***week*** how many cakes will he bake?

