

Student Guide

Solve these division problems. Check your answers by using a calculator.

- | | | | |
|---|---|--|---|
| 1. A. $6 \div 2$
$60 \div 2$
$600 \div 2$
$6000 \div 2$
$60,000 \div 2$ | B. $9 \div 3$
$90 \div 3$
$900 \div 3$
$9000 \div 3$
$90,000 \div 3$ | C. $12 \div 3$
$120 \div 3$
$1200 \div 3$
$12,000 \div 3$
$120,000 \div 3$ | D. $40 \div 5$
$400 \div 5$
$4000 \div 5$
$40,000 \div 5$
$400,000 \div 5$ |
| 2. A. $60 \div 30$
$600 \div 300$
$6000 \div 3000$
$6000 \div 300$ | B. $90 \div 10$
$900 \div 10$
$900 \div 100$
$9000 \div 10$
$9000 \div 100$ | C. $240 \div 40$
$2400 \div 40$
$2400 \div 400$
$24,000 \div 40$
$24,000 \div 400$ | D. $450 \div 5$
$4500 \div 50$
$4500 \div 500$
$45,000 \div 50$
$45,000 \div 500$ |

3. Show or tell how you solved the problems in Question 2C. If you used a rule, describe how the rule works.

✓ Check-In: Questions 4-7

Solve the problems in Questions 4-7. Write a number sentence to show how you found your answers.

- A high school has 5 computer labs. The school bought 250 computers. If each computer lab will get the same number of computers, how many new computers will each lab get?
- Luis's older sister has to write a paper for school that is 6000 words. If 300 words fit on a page, how many pages should the paper be?
- Linda used a stopwatch to measure the time she spent walking to and from school each day. In one week she walked a total of 240 minutes. How many hours did she spend walking to and from school that week?
- Katy's Catering Company is setting up for a large dinner with 70 tables. Katy ordered 420 balloons to use for centerpieces on each of the tables. How many balloons can Katy use for each centerpiece?
 - Eight people will sit at each table. How many people can be served at the dinner?



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Questions 1-10 (SG pp. 531-533)

- A. 3; 30; 300; 3000; 30,000
 - B. 3; 30; 300; 3000; 30,000
 - C. 4; 40; 400; 4000; 40,000
 - D. 8; 80; 800; 8000; 80,000
- A. 2; 20; 2; 200; 20
 - B. 9; 90; 9; 900; 90
 - C. 6; 60; 6; 600; 60
 - D. 90; 90; 9; 900; 90
- * Answers will vary. See Figure 4 in the lesson.
- $250 \div 5 = 50$ computers
- $6000 \div 300 = 20$ pages
- $240 \div 60 = 4$ hours
- A. $420 \div 70 = 6$ balloons
 - B. $8 \times 70 = 560$ people
- 27 teams; methods will vary.
- There would still be 27 teams, but there would be 4 extra players left over.
- Stories and related number sentences will vary. Related multiplication problems and answers are shown.

- $3 \times ? = 112; 37 \text{ R}1$
- $7 \times ? = 98; 14$
- $8 \times ? = 89; 11 \text{ R}1$
- $6 \times ? = 131; 21 \text{ R}5$
- $5 \times ? = 220; 44$
- $4 \times ? = 700; 175$

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Lee Yah's Method:

I know it is more than 20 teams and less than 30 teams because $9 \times 20 = 180$ and $9 \times 30 = 270$.
I'll start with $9 \times 20 = 180$ and $9 \times 5 = 45$. So 20 teams + 5 teams takes care of 180 players and 45 more is 225 players. So 225 players will make 25 teams. There are still 18 players left to divide up into teams, because $243 - 225 = 18$. That means there will be 2 more teams, because $18 \div 9 = 2$.
So the answer is $25 + 2$, or 27 teams.



Keenya's Method:

I started with $9 \times 30 = 270$. To make 30 teams we would need 270 players, which is 27 players more than we have. $270 - 243 = 27$. The extra 27 players would make 3 teams.
So the answer is $30 - 3$, or 27 teams.

- Solve $243 \div 9$ using a different combination of number sentences from Mrs. Dewey's list.
- How would the answer be different if there were 247 total players to start with? Explain your reasoning.



When you divide $247 \div 9$, the quotient is still 27, but now there are 4 players left over. We cannot make another full team out of 4 players, so the 4 is called the remainder.

- For each of the problems shown below, do the following:
 - Write a story or draw a picture that fits the problem.
 - Write the division problem as a multiplication problem with a missing factor.
 - Write a set of related number sentences that will help you solve the problem.
 - Solve the problem and check that your answer is reasonable.
- | | | |
|-----------------|-----------------|-----------------|
| A. $112 \div 3$ | B. $98 \div 7$ | C. $89 \div 8$ |
| D. $131 \div 6$ | E. $220 \div 5$ | F. $700 \div 4$ |

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*Answers and/or discussion are included in the lesson.

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Homework (SG p. 534)

Questions 1–7

1. A. 4; 40; 400; 4000
 B. 2; 20; 200; 2000
 C. 3; 30; 300; 3000
 D. 8; 80; 800; 8000
2. A. 1; 1; 10; 100; 1000
 B. 4; 4; 40; 400; 400
 C. 7; 7; 70; 700; 70
 D. 6; 6; 60; 600; 60
3. Strategies will vary. Possible response: I know $28 \div 7 = 4$. I used that fact to answer the others. Each time I thought of a multiplication problem like $70 \times ? = 280$. I know $4 \times 7 = 28$ and so $4 \times 70 = 280$.
4. Possible response: $180 \div 9 = 20$, so $200 \div 9$ is a little more than 20.
5. Possible response: $\$2100 \div 7 = \300 and $\$2800 \div 7 = \400 , so each team will get between \$300 and \$400.
6. Possible response: $60 \div 6 = 10$, so Jessie will have to wait through 10 rides. 80 is 20 more, so $20 \div 6$ is 3 R2, so she will have to wait through 13 more rides.
7. A. Stories and pictures will vary. Possible solution method:

$$\begin{array}{r} \underline{\quad} \times 9 = 378 \\ 4 \times 9 = 36 \\ 42 \left\langle \begin{array}{l} 40 \times 9 = 360 \\ 2 \times 9 = 18 \end{array} \right\rangle 378 \\ 378 \div 9 = 42 \end{array}$$

- B. Stories and pictures will vary. Possible solution method:

$$\begin{array}{r} \underline{\quad} \times 8 = 885 \\ 110 \left\langle \begin{array}{l} 100 \times 8 = 800 \\ 10 \times 8 = 80 \end{array} \right\rangle 880 \\ 885 - 880 = 5 \text{ left over} \\ 885 \div 8 = 110 \text{ R } 5 \end{array}$$



Solve these division problems mentally. Check your answers using a calculator.

- | | | | |
|---|---|--|--|
| 1. A. $8 \div 2$
$80 \div 2$
$800 \div 2$
$8000 \div 2$ | B. $20 \div 10$
$200 \div 10$
$2000 \div 10$
$20,000 \div 10$ | C. $27 \div 9$
$270 \div 9$
$2700 \div 9$
$27,000 \div 9$ | D. $48 \div 6$
$480 \div 6$
$4800 \div 6$
$48,000 \div 6$ |
| 2. A. $5 \div 5$
$50 \div 50$
$500 \div 50$
$5000 \div 50$
$50,000 \div 50$ | B. $28 \div 7$
$280 \div 70$
$2800 \div 70$
$28,000 \div 70$
$280,000 \div 700$ | C. $42 \div 6$
$420 \div 60$
$4200 \div 60$
$42,000 \div 60$
$420,000 \div 6000$ | D. $30 \div 5$
$300 \div 50$
$3000 \div 50$
$30,000 \div 5000$
$300,000 \div 5000$ |

3. Show or tell how you solved the problems in Question 2B. If you used a rule, describe how the rule works.

Estimate the answers to the problems in Questions 4–6. Write a number sentence to show how you found your answers.

4. A marching band has 200 members. The band members march in rows of nine. Estimate about how many rows of band members there are.
 5. A basketball league raised about \$2500 for uniforms. If the money is shared equally among the seven teams in the league, estimate about how much money each team can spend on uniforms.
 6. Jessie is waiting in line at the amusement park to ride the Big Drop. She estimates that there are about 80 people in line. If the Big Drop holds six people per ride, about how many rides will Jessie have to wait through before it is her turn?
 7. For each of the problems below, do the following:
 - Write a story or draw a picture that fits the problem.
 - Write the division problem as a multiplication problem with a missing factor.
 - Write a set of related number sentences that will help you solve the problem.
 - Solve the problem and check that your answer is reasonable.
- A. $378 \div 9$
 B. $885 \div 8$

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