

Homework (SG p. 543)

Questions 1–9

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  $4 \times 7 = 28$  so  $4 \times 70 = 280$ .

Possible responses and estimation strategies given for Questions 4–9:

4.  $288 \div 3$  is a little less than 100 because  $300 \div 3 = 100$ .  $3 \times 100 = 300$  and  $3 \times 90 = 270$ . I used  $3 \times 10$  and  $3 \times 9$ .
5.  $346 \div 7$  is a little less than 50.  $7 \times 50 = 350$  and  $7 \times 40 = 280$ . I used  $7 \times 5$  and  $7 \times 4$ .
6.  $452 \div 9$  is about 50.  $9 \times 50 = 450$  and  $9 \times 60 = 540$ . 452 is close to 450. I used  $9 \times 5$  and  $9 \times 6$ .
7.  $590 \div 8$ . Possible estimate: A little more than 70 boxes but fewer than 80 boxes.  
 $8 \times 70 = 560$ ,  $8 \times 80 = 640$ .
8.  $950 \div 8$  is more than 100.  $8 \times 100 = 800$  and  $8 \times 200 = 1600$ . 950 is closer to 800 than it is to 1600, so the answer is probably closer to 100 than to 200.
9. A.  $4142.65 - 500 = 3642.65$ .  
 $\$3600 \div 6 = \text{about } \$600$  for each boy.  
    B. An additional \$150 per boy needs to be raised, so the boys need to raise about \$900 more.

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. $48 \div 6$ $480 \div 6$ $4800 \div 6$ $48,000 \div 6$
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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. $30 \div 5$ $300 \div 50$ $3000 \div 50$ $30,000 \div 500$ $300,000 \div 5000$
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3. Show or tell how you solved the problems in Question 2B. If you used a rule, describe how the rule works.

Estimate each quotient. Show which multiplication facts you used to make your estimate.

4. $3 \overline{)288}$	5. $346 \div 7$	6. $9 \overline{)452}$
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7. Workers can fit eight math books into a box. About how many boxes will be needed to pack 590 books?
8. There are eight pear trees in an orchard. This year, about 950 pears were picked from the trees. If about the same number of pears were picked from each tree, about how many pears were picked from each tree?
9. Six boys have been selling candy to raise money to go to baseball camp. They will split all the money they raise equally. They have raised \$4142.65, but they have to pay back about \$500 for the candy before dividing the money.
  - A. Show how you estimate about how much money each boy will get for baseball camp.
  - B. If the camp costs \$750 for each boy, about how much more money do the six boys have to raise altogether?

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### Using Multiplication Facts to Estimate

Estimate each quotient. Show which multiplication facts you used to make your estimates.

Example:  $7 \overline{)468}$

Think:

$7 \times 50 =$	350
$7 \times 60 =$	420
$7 \times 70 =$	490

← 468

**Answer:** The quotient will be at least 60 but less than 70. I used multiples of 10 and  $7 \times 5$ ,  $7 \times 6$ , and  $7 \times 7$ . Since 468 is between  $7 \times 60 = 420$  and  $7 \times 70 = 490$ .

1. Kenya listed the following quotients to help her solve  $384 \div 5$ .

$5 \times 50 =$	250
$5 \times 60 =$	300
$5 \times 70 =$	350
$5 \times 80 =$	400

Write an estimate using her list of multiplication facts.

2.  $256 \div 4$

3.  $416 \div 5$

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4.  $3 \overline{)225}$

5.  $728 \div 8$

6.  $8 \overline{)536}$

7.  $9 \overline{)235}$

8.  $290 \div 7$

9.  $6 \overline{)342}$

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

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**Using Multiplication Facts to Estimate**

**Questions 1–9 (SAB pp. 511–512)**

Estimates and strategies will vary. One possible strategy is given for each.

1.  $384 \div 5$  is between 70 and 80 because  $5 \times 70 = 350$  and  $5 \times 80 = 400$ .
- 2.\*  $4 \times 6$  and  $4 \times 7$ . Less than 70;  $280 \div 4 = 70$ , so  $256 \div 4$  is less than 70, but more than 60.
3.  $5 \times 8$  and  $5 \times 9$ . A little more than 80;  $5 \times 80 = 400$  and  $5 \times 90 = 450$ , so  $416 \div 5$  is between 80 and 90, but it is closer to 80 because 416 is closer to 400 than it is to 450.
4.  $3 \times 7$  and  $3 \times 8$ . Between 70 and 80;  $3 \times 70 = 210$  and  $3 \times 80 = 240$ , so  $225 \div 3$  is between 70 and 80.
5.  $8 \times 9$ . 91;  $720 \div 8 = 90$ , so  $728 \div 8$  is one more, 91.
6.  $8 \times 6$  and  $8 \times 7$ . Between 60 and 70;  $8 \times 60 = 480$  and  $8 \times 70 = 560$ , so  $536 \div 8$  is between 60 and 70.
7.  $9 \times 2$  and  $9 \times 3$ . Between 20 and 30;  $9 \times 20 = 180$  and  $9 \times 30 = 270$ , so  $235 \div 9$  is between 20 and 30.
8.  $7 \times 4$  and  $7 \times 5$ . A little more than 40;  $7 \times 40 = 280$  and  $7 \times 50 = 350$ , so  $290 \div 7$  is between 70 and 80 but it will be closer to 70 because 290 is closer to 280 than it is to 350.
9.  $6 \times 5$  and  $6 \times 6$ . Between 50 and 60;  $6 \times 50 = 300$  and  $6 \times 60 = 360$ , so  $342 \div 6$  is between 50 and 60.