

Name _____

Using Patterns to Divide Mentally

P 7-1

Divide. Use mental math.

- | | |
|-----------------------------|----------------------------|
| 1. $250 \div 5 =$ _____ | 2. $1,400 \div 2 =$ _____ |
| 3. $300 \div 5 =$ _____ | 4. $1,600 \div 4 =$ _____ |
| 5. $240 \div 8 =$ _____ | 6. $36,000 \div 4 =$ _____ |
| 7. $16,000 \div 2 =$ _____ | 8. $270 \div 3 =$ _____ |
| 9. $4,200 \div 7 =$ _____ | 10. $640 \div 8 =$ _____ |
| 11. $2,000 \div 5 =$ _____ | 12. $320 \div 8 =$ _____ |
| 13. $12,000 \div 2 =$ _____ | 14. $1,600 \div 8 =$ _____ |

The fourth grade performed a play based on the story of Cinderella. There was one chair for each person present.

15. On Friday, 140 people came to the play. The chairs in the auditorium were arranged in 7 equal rows. How many chairs were in each row? _____
16. There were 8 equal rows set up for Saturday's performance. There were 240 people at the play on Saturday. How many chairs were in each row? _____

Test Prep

17. Which is the quotient of $56,000 \div 8$?
A. 400 B. 4,000 C. 700 D. 7,000
18. **Writing in Math** Explain why the following answer is not correct: $1,000 \div 5 = \underline{2,000}$.

Name _____

Estimating Quotients

P 7-2

Estimate each quotient. Tell whether you found an overestimate or an underestimate.

1. $82 \div 4$ _____
2. $580 \div 3$ _____
3. $96 \div 5$ _____
4. $811 \div 2$ _____
5. $194 \div 6$ _____
6. $207 \div 7$ _____
7. $282 \div 4$ _____
8. $479 \div 8$ _____
9. Jacqui is writing a book. If she needs to write 87 pages in 9 days, about how many pages will she write each day? _____
10. Wade wants to give 412 of his marbles to 10 of his friends. If he gives each friend the same number of marbles, about how many will each friend receive? _____

Test Prep

11. Which is the best estimate for $502 \div 6$?
A. 60 B. 70 C. 80 D. 90
12. **Writing in Math** You are using division to determine how much whole wheat flour to use in a bread recipe. Is an estimated answer good enough?

Name _____

Dividing with Remainders

P 7-3

Divide. You may use counters or pictures to help.

1. $4\overline{)27}$

2. $6\overline{)32}$

3. $7\overline{)17}$

4. $9\overline{)29}$

5. $8\overline{)27}$

6. $3\overline{)27}$

7. $5\overline{)28}$

8. $4\overline{)35}$

9. $2\overline{)19}$

10. $7\overline{)30}$

11. $3\overline{)17}$

12. $9\overline{)16}$

If you arrange these items into equal rows, tell how many will be in each row and how many will be left over.

13. 26 shells into 3 rows

14. 19 pennies into 5 rows

15. 17 balloons into 7 rows

16. **Number Sense** Ms. Nikkel wants to divide her class of 23 students into 4 equal teams. Is this reasonable? Why or why not?

Test Prep

17. Which is the remainder for the quotient of $79 \div 8$?

A. 7

B. 6

C. 5

D. 4

18. **Writing in Math** Pencils are sold in packages of 5. Explain why you need 6 packages in order to have enough for 27 students.

Name _____

Two-Digit Quotients

P 7-4

Use place-value blocks or draw pictures. Tell how many CDs are in each case and how many are left over.

1. 60 CDs
5 cases _____

2. 72 CDs
4 cases _____

3. 93 CDs
8 cases _____

Divide. You may use place-value blocks or pictures to help.

4. $9\overline{)97}$

5. $3\overline{)67}$

6. $6\overline{)80}$

7. $5\overline{)97}$

8. $2\overline{)54}$

9. $7\overline{)54}$

10. $8\overline{)92}$

11. $2\overline{)53}$

12. **Number Sense** Mr. Brooks brought a box of 66 acorns to class. Can he give 3 acorns to each of the 23 students in his class? Why or why not?

Test Prep

13. Which is the quotient of $45 \div 4$?

A. 10 R5

B. 11 R1

C. 11 R4

D. 12 R2

14. **Writing in Math** Explain how you can find the quotient of $84 \div 4$.

Dividing Two-Digit Numbers

P 7-5

1.
$$\begin{array}{r} 2 \square \\ 3 \overline{) 84} \\ \underline{\square} \\ \square 4 \\ \underline{\square} \\ 0 \end{array}$$

2.
$$\begin{array}{r} 1 \square R4 \\ 6 \overline{) 70} \\ \underline{\square} \\ \square 0 \\ \underline{\square} \\ 4 \end{array}$$

3.
$$\begin{array}{r} \square 8 \\ 4 \overline{) 72} \\ \underline{\square} \\ \square \square \\ \underline{\square} \\ \square \square \\ \underline{\square} \\ 0 \end{array}$$

4. $2 \overline{) 72}$

5. $5 \overline{) 86}$

6. $7 \overline{) 94}$

7. $3 \overline{) 39}$

8. $8 \overline{) 99}$

9. $5 \overline{) 87}$

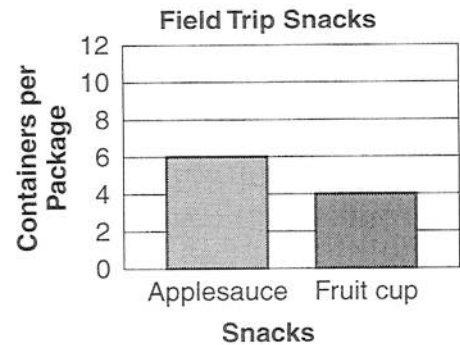
10. $2 \overline{) 96}$

11. $3 \overline{) 43}$

Mrs. Thomas is planning to provide snacks for 96 fourth graders when they go on a field trip to the aquarium. Each student will receive 1 of each item. How many packages of each snack does Mrs. Thomas need?

12. fruit cups _____

13. applesauce _____



Test Prep

14. Which is the remainder of $124 \div 18$?

A. 12

B. 16

C. 18

D. 20

15. **Writing in Math** Explain how to find the number of leftover pencils if Wendy wants to share 37 pencils with 9 people.

Name _____

PROBLEM-SOLVING SKILL

P 7-6

Interpreting Remainders

The fourth-grade class is going camping as a nature field trip. There are 85 students going on the trip. Solve the following questions with this information.

1. There are 47 girls in the group. If each tent holds 3 people, how many tents are needed for the girls? _____
2. The group will take 4 buses that can each carry 20 children and their gear. The rest of the students will ride in the school van. How many students will ride in the van? _____
3. The teachers and parents will make 4 large pots of soup for dinner. About how many servings will each pot need to contain to feed all the students, 4 teachers, and 6 parents? _____
4. Cups come in packages of 20. How many packages of cups will be needed for this meal? _____
5. One gallon of milk contains 128 fluid oz. How many 8 oz cups will 1 gal contain? _____
6. Each student pays \$10.00 for the field trip. The chart shows how the money is used. If the leftover money is used for maintaining the camping equipment, how much does each student contribute for equipment? _____

Costs per Student

Camping fee	\$2.00
Bus service	\$3.50
Food	\$3.75

Dividing Three-Digit Numbers

P 7-7

1.
$$\begin{array}{r} 4 \overline{) 179} \text{ R}3 \\ \underline{4} \\ 17 \\ \underline{16} \\ 9 \\ \underline{8} \\ 1 \\ \underline{0} \\ 0 \end{array}$$

2.
$$\begin{array}{r} 3 \text{ R}3 \\ 7 \overline{) 948} \\ \underline{7} \\ 24 \\ \underline{21} \\ 38 \\ \underline{35} \\ 38 \\ \underline{35} \\ 3 \\ \underline{0} \\ 0 \end{array}$$

3.
$$\begin{array}{r} \text{ R}3 \\ 6 \overline{) 747} \\ \underline{6} \\ 14 \\ \underline{12} \\ 27 \\ \underline{24} \\ 37 \\ \underline{36} \\ 17 \\ \underline{18} \\ 0 \end{array}$$

4. $7 \overline{) 698}$

5. $8 \overline{) 747}$

6. $2 \overline{) 329}$

7. $9 \overline{) 411}$

8. $3 \overline{) 198}$

9. $2 \overline{) 587}$

10. $5 \overline{) 975}$

11. $6 \overline{) 573}$

12. **Algebra** When 475 is divided by n , the quotient is 25. Solve for n .

13. **Algebra** When 289 is divided by x , the quotient is 96 R1. Solve for x .

Test Prep

14. Yvonne needs to distribute 345 stickers to 8 classrooms. How many stickers will each classroom get?

A. 53

B. 44

C. 43

D. 38

15. **Writing in Math** Write and solve a word problem for $245 \div 7$.

Name _____

Zeros in the Quotient

P 7-8

Divide. Check your answer.

1. $3\overline{)921}$

2. $4\overline{)834}$

3. $5\overline{)549}$

4. $2\overline{)611}$

5. $6\overline{)627}$

6. $8\overline{)824}$

7. $7\overline{)762}$

8. $5\overline{)535}$

9. $4\overline{)810}$

10. $6\overline{)121}$

11. $7\overline{)712}$

12. $9\overline{)936}$

13. **Number Sense** When Donald divided 636 by 6, his quotient was 16. What common mistake did he make?

The fourth graders in Clifton's classroom used computer games to practice their math skills. Each student's score was the same in each round.

14. Clifton scored 918 points in 9 rounds of math facts. How many points did he score in each round?

15. Brionne scored 654 points in 6 rounds. How many points did she score in each round?

Test Prep

16. Which is the quotient of $617 \div 3$?

A. 203 R2

B. 205

C. 205 R1

D. 205 R2

17. **Writing in Math** In Patricia's class, 7 students need to share 714 building blocks to make a building model. Each student needs an equal number of blocks. Patricia thinks each student should have 100 blocks. Is this the best plan? Explain.

Name _____

Dividing Money Amounts

P 7-9

Divide. Check your answer.

1. $4 \overline{) \$8.12}$

2. $3 \overline{) \$1.20}$

3. $5 \overline{) \$6.55}$

4. $2 \overline{) \$9.68}$

5. $7 \overline{) \$7.21}$

6. $9 \overline{) \$8.19}$

7. $6 \overline{) \$4.74}$

8. $8 \overline{) \$9.52}$

Use the table at the right for Exercises 9 and 10. Find the cost of one of each type of tropical fish.

9. Neon barb

10. Guppy

Pete's Pets

Fish	Price
Guppies	6 for \$1.44
Neon barbs	3 for \$3.99
Tetras	3 for \$4.98
Zebra danio	3 for \$2.19
Black snail	\$0.99 each

11. Marcus bought 6 cans of fish food for \$7.74.
How much did he spend per can? _____

Test Prep

12. If James bought 5 trading cards for \$5.25, how much did each card cost?

A. \$0.88

B. \$0.99

C. \$1.00

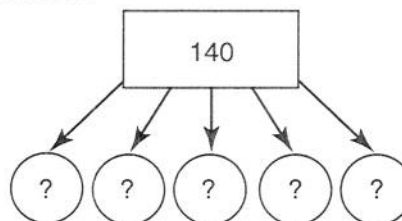
D. \$1.05

13. **Writing in Math** Explain how you can use the fact $620 \div 4 = 155$ to find the cost of each bottle of water, if the price is \$6.20 for 4 bottles.

Write a Number Sentence

Using a Number Sentence to Solve Problems Solve the number sentence. Write the answer in a complete sentence.

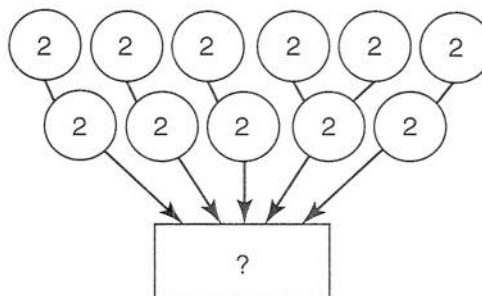
- McKinley Elementary School is holding its annual science fair. There are 140 projects to be displayed. There is room for 5 projects on each table. How many tables are needed to display all the projects?



Writing a Number Sentence to Solve Problems Draw a picture to show the main idea for each problem. Then write a number sentence. Solve. Write the answer in a complete sentence.

- Stanley's science fair project is on recycling. As part of the project, he and his friends collected 45 lb of aluminum cans and redeemed them at the recycling center. They received \$0.31 per pound. How much did they receive for all their cans?

- Brittany's project showed the size of the planet Jupiter as compared to Earth. She found that the diameter of Jupiter was about 11 times greater than the diameter of Earth. If her model of Earth has a diameter of 2 in., how large should the diameter of her model of Jupiter be?



Name _____

Dividing by Multiples of 10

P 7-13

Divide. Use mental math.

1. $360 \div 40 =$ _____
2. $450 \div 90 =$ _____
3. $270 \div 30 =$ _____
4. $630 \div 70 =$ _____
5. $1,600 \div 40 =$ _____
6. $1,000 \div 20 =$ _____
7. $250 \div 50 =$ _____
8. $490 \div 70 =$ _____
9. $1,200 \div 60 =$ _____
10. $400 \div 80 =$ _____
11. $2,100 \div 70 =$ _____
12. $1,800 \div 30 =$ _____
13. **Number Sense** If $270 \div 90 = 3$ and $2,700 \div 90 = 30$,
what is $270,000 \div 90$? _____

The whooping crane is being reintroduced to the midwestern United States. The birds fly from Wisconsin to Florida in the fall.

14. Suppose a group of cranes covered the 1,200 mi trip south in about 20 flying days. How far did they fly per day? _____
15. In the spring, the birds flew the return trip back north in only 10 days. How many times as fast did the birds fly on their return trip? _____
16. Suppose that one day the flock covered 80 mi in 2 hr. How many miles per hour were the birds flying?

Test Prep

17. Which is the quotient of $5,400 \div 60$?
A. 50 B. 60 C. 90 D. 900
18. **Writing in Math** Would it be quicker to use a calculator or to use mental math to answer Exercise 17? Why?

Name _____

Dividing with Two-Digit Divisors

P 7-14

Estimate each quotient. Then divide.

1. $84 \div 22$ _____

2. $271 \div 53$ _____

3. $379 \div 42$ _____

4. $294 \div 61$ _____

5. $29 \overline{)167}$

6. $34 \overline{)296}$

7. $57 \overline{)379}$

8. $76 \overline{)247}$

9. $55 \overline{)179}$

10. $82 \overline{)396}$

11. Ms. Nicholas brought 189 blue beads and 189 white beads so that her class could make bracelets. It takes 42 beads to make a bracelet. How many bracelets could they make? _____
12. Mr. Barkley is helping students make candles using wax and empty milk cartons. Mr. Barkley carefully melted 160 oz of wax. If each of the 26 students makes a candle, about how many ounces will each candle weigh? _____

Test Prep

13. Trisha scored 568 points in 71 basketball games. How many points did she score per game?
A. 9 points B. 8 R41 points C. 8 R22 points D. 8 points
14. **Writing in Math** Explain why the remainder of any division problem must be smaller than the divisor.

Name _____

PROBLEM-SOLVING APPLICATIONS

P 7-15

The Divisions of Space

Solve. Write your answer in a complete sentence.

1. Astronauts eat 3 meals per day. An astronaut may require about 2,400 calories each day. If an astronaut eats the same amount of calories each meal, how many calories does the astronaut consume at each meal?

2. Astronauts use a space suit so they can space walk outside of a shuttle or station. A space suit's oxygen and power need to be recharged in the space shuttle after 8 hr of space walking. How many times does the space suit need to be recharged if used for 192 hr?

3. An astronaut is scheduled to sleep for 480 min each day. If an astronaut is sleeping in a space shuttle that is orbiting Earth, he could see the sun rise every 45 min. How many times could an astronaut see the sun rise during his scheduled sleep time?

4. What was the average distance from Earth for the space shuttle *Atlantis* from Wednesday until Saturday?

Distance from Earth for *Atlantis*

Day	Distance
Wednesday	278 mi
Thursday	323 mi
Friday	350 mi
Saturday	253 mi