



Division Practice Sheets: Grade 4



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Division Practice Sheets: Grade 4

If division makes you a little nervous, you're not alone! It just *sounds* harder than multiplication, doesn't it? But once you see that multiplication and division are opposites of each other...that is, each can "undo" the other...division won't seem quite so scary. You've probably been working on division concepts for quite a while now, but in fourth grade the pressure's really on to get those basic skills down pat.

Use these division worksheets to reinforce what you're learning in class, to prep for standardized tests, or to keep your math mind in gear during the summer. But before you jump in, take a look at the "Math Hints and Reminders" sheets. You may want to refer to these pages and their tips as you go through the worksheets.

Division Concepts and Facts

Math Hints and Reminders

Division Facts I

Division Facts II

Dividing with 2, 5, and 9

Special Quotients

Dividing with 3 and 4

Dividing with 6, 7, and 8

Exploring Even and Odd Numbers

Dividing by 1-Digit Divisors

Math Hints and Reminders

Dividing Multiples of 10, 100, and 1,000

Estimating Quotients

Exploring Division with Remainders

Dividing 2-Digit Dividends

Dividing Multidigit Numbers

2- or 3-Digit Quotients

Zeros in the Quotient

Exploring Division with Money

Dividing Money Amounts

Finding Averages

Exploring Divisibility

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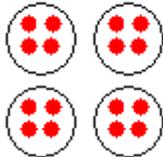
Division Concepts and Facts: Math Hints and Reminders

Reviewing the Meaning of Division

Here's a little division vocabulary to refresh your memory:

Quotient	The answer to a division problem
Dividend	The number to be divided in a division problem
Divisor	The number by which a dividend is divided: the "goes into" number
Fact Family	A group of related facts using the same set of numbers: $5 \times 9 = 45$ $45 \div 9 = 5$ $9 \times 5 = 45$ $45 \div 5 = 9$

There are two ways that you can write a division problem: $10 \div 2 = 5$ and $\begin{array}{r} 5 \\ 2 \overline{)10} \end{array}$.
 And believe it or not, there are three ways to think about division:

Division as Sharing	Division as Repeated Subtraction	Division as the Opposite of Multiplication
Find $16 \div 4$ Say you have 16 lollipops and you want to share them with 4 of your friends. How many lollipops should each friend get?  Each friend gets 4 lollipops.	Find $16 \div 8$ Subtract 8 from 16. Continue to subtract 8 until you reach zero. $16 - 8 = 8$ $8 - 8 = 0$ Now count how many times you subtracted: 2 times. So, 2 is the answer.	Find $16 \div 2$ Put your multiplication facts to work. Think: What number times 2 equals 16? $2 \times 8 = 16$ so $16 \div 2 = 8$

Dividing with 2, 5, and 9

To divide by 2, 5, and 9, just take your basic multiplication facts and shake them up a little. To find $63 \div 9$, think: 9 times what number equals 63? $9 \times 7 = 63$. So, $63 \div 9 = 7$.

Special Quotients

Special numbers require special treatment! You cannot divide by zero – not ever! You can say $0 \div 2 = 0$, but you can never say $2 \div 0$. You'll be in good shape if you memorize these rules for dividing by 0 and 1.

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Division rules for 0	Division rules for 1
<ul style="list-style-type: none">• 0 divided by any number (except 0) is 0.• You cannot divide by 0 (0 can never be a “divisor”).	<ul style="list-style-type: none">• Any number divided by 1 is that number.• Any number divided by itself (except 0) is 1.
Look at the fact family for 0, 0, and 4:	Look at the fact family for 1, 8, and 8:
$4 \times 0 = 0$ $0 \div 4 = 0$ $0 \times 4 = 0$ $4 \div 0 = \text{Can't do it!}$	$8 \times 1 = 8$ $8 \div 1 = 8$ $1 \times 8 = 8$ $8 \div 8 = 1$
You can also write: $\begin{array}{r} 0 \\ 4 \overline{) 0} \end{array}$ but you can't write $\begin{array}{r} \\ 0 \overline{) 4} \end{array}$.	

Dividing with 3, 4, 6, 7, and 8

Multiplication can help you divide by 3, 4, 5, 6, 7, and 8. What's $28 \div 7$? Think: 7 times what number equals 28? $7 \times 4 = 28$. So, $28 \div 7 = 4$.

If you're consistently finding the wrong quotients, it may be that you don't have your multiplication facts down. Remember, there is no trick to memorizing multiplication facts; you just have to do it!

Exploring Even and Odd Numbers

No matter how big a number is, if it has 0, 2, 4, 6, or 8 in the ones place, it's even. If it has 1, 3, 5, 7, or 9 in the ones place, it's odd. For example: 42,000,003 is an odd number.

Even numbers can be divided into two equal groups. Odd numbers cannot be divided into two equal groups. 1 will always be left over.

Name _____

Division Facts

Danielle has 20 figurines. She wants to put the figurines in equal numbers on four shelves. How many figurines can she put on a shelf?

We use division to show how many equal groups or how many items are in each group.

Think: 20 figurines divided among 4 shelves = n . $20 \div 4 = n$

You know that $4 \times 5 = 20$, so $20 \div 4 = 5$. $n = 5$

Danielle can put 5 figurines on each shelf.

A **fact family** shows all the related multiplication and division facts for a set of numbers. This is the fact family for 4, 5, and 20.

$$4 \times 5 = 20 \quad 5 \times 4 = 20 \quad 20 \div 4 = 5 \quad 20 \div 5 = 4$$

1. $25 \div 5$ **2.** $16 \div 4$ **3.** $10 \div 2$ **4.** $42 \div 6$ **5.** $45 \div 9$

6. $2 \overline{)8}$ **7.** $6 \overline{)30}$ **8.** $4 \overline{)12}$ **9.** $7 \overline{)28}$ **10.** $5 \overline{)35}$

Write the family of facts for each set of numbers.

11. 2, 8, 16

12. 3, 6, 18

13. 3, 9, 27

Algebra Find each missing number.

14. $27 \div 3 = n$

15. $a \times 3 = 6$

16. $10 \times m = 50$

17. $64 \div u = 8$

Answer Key

Division Facts

Danielle has 20 figurines. She wants to put the figurines in equal numbers on four shelves. How many figurines can she put on a shelf?

We use division to show how many equal groups or how many items are in each group.

Think: 20 figurines divided among 4 shelves = n . $20 \div 4 = n$

You know that $4 \times 5 = 20$, so $20 \div 4 = 5$. $n = 5$

Danielle can put 5 figurines on each shelf.

A **fact family** shows all the related multiplication and division facts for a set of numbers. This is the fact family for 4, 5, and 20.

$4 \times 5 = 20$

$5 \times 4 = 20$

$20 \div 4 = 5$

$20 \div 5 = 4$

1. $25 \div 5$

5

2. $16 \div 4$

4

3. $10 \div 2$

5

4. $42 \div 6$

7

5. $45 \div 9$

5

6. $2 \overline{)8}$

4

7. $6 \overline{)30}$

5

8. $4 \overline{)12}$

3

9. $7 \overline{)28}$

4

10. $5 \overline{)35}$

7

Write the family of facts for each set of numbers.

11. 2, 8, 16

$2 \times 8 = 16$

$8 \times 2 = 16$

$16 \div 8 = 2$

$16 \div 2 = 8$

12. 3, 6, 18

$3 \times 6 = 18$

$6 \times 3 = 18$

$18 \div 3 = 6$

$18 \div 6 = 3$

13. 3, 9, 27

$3 \times 9 = 27$

$9 \times 3 = 27$

$27 \div 3 = 9$

$27 \div 9 = 3$

Algebra Find each missing number.

14. $27 \div 3 = n$

 $n = 9$

15. $a \times 3 = 6$

 $a = 2$

16. $10 \times m = 50$

 $m = 5$

17. $64 \div u = 8$

 $u = 8$

Name _____

Division Facts

1. $64 \div 8$

2. $81 \div 9$

3. $72 \div 9$

4. $42 \div 6$

5. $54 \div 6$

Write the family of facts for each set of numbers.

6. 6, 5, 30

7. 6, 4, 24

8. 3, 7, 21

9. 7, 8, 56

10. 7, 6, 42

11. Art wants to display 35 of his origami figures by hanging an equal number on each of 5 mobiles. How many figures will Art hang from each mobile?

12. Jack has 40 trading cards that he would like to give to his 5 best friends. If he shares them equally, how many cards will he give to each?

13. **Algebra** The dividend is 81, the quotient is 9, and the divisor is n . What is n ?

Test Prep Circle the correct letter for the answer.

14. If $45 \div 9 = 5$, which facts are related?

A $5 \times 9 = 45$

C $9 \times 5 = 45$

B $9 \times 4 = 36$

D Both A and C

Answer Key

Division Facts

1. $64 \div 8$

8

2. $81 \div 9$

9

3. $72 \div 9$

8

4. $42 \div 6$

7

5. $54 \div 6$

9

Write the family of facts for each set of numbers.

6. 6, 5, 30

$6 \times 5 = 30$

$5 \times 6 = 30$

$30 \div 6 = 5$

$30 \div 5 = 6$

7. 6, 4, 24

$6 \times 4 = 24$

$4 \times 6 = 24$

$24 \div 6 = 4$

$24 \div 4 = 6$

8. 3, 7, 21

$3 \times 7 = 21$

$7 \times 3 = 21$

$21 \div 3 = 7$

$21 \div 7 = 3$

9. 7, 8, 56

$7 \times 8 = 56$

$8 \times 7 = 56$

$56 \div 7 = 8$

$56 \div 8 = 7$

10. 7, 6, 42

$7 \times 6 = 42$

$6 \times 7 = 42$

$42 \div 7 = 6$

$42 \div 6 = 7$

11. Art wants to display 35 of his origami figures by hanging an equal number on each of 5 mobiles. How many figures will Art hang from each mobile?

7 figures

12. Jack has 40 trading cards that he would like to give to his 5 best friends. If he shares them equally, how many cards will he give to each?

8 cards

13. **Algebra** The dividend is 81, the quotient is 9, and the divisor is n . What is n ?

$n = 9$

Test Prep Circle the correct letter for the answer.

14. If $45 \div 9 = 5$, which facts are related?

A $5 \times 9 = 45$

C $9 \times 5 = 45$

B $9 \times 4 = 36$

D Both A and C

Name _____

Dividing with 2, 5, and 9

Find each quotient.

- | | | |
|-----------------------|-----------------------|-----------------------|
| 1. $36 \div 4$ _____ | 2. $63 \div 9$ _____ | 3. $25 \div 5$ _____ |
| 4. $40 \div 5$ _____ | 5. $16 \div 2$ _____ | 6. $81 \div 9$ _____ |
| 7. $35 \div 7$ _____ | 8. $45 \div 9$ _____ | 9. $30 \div 5$ _____ |
| 10. $12 \div 2$ _____ | 11. $14 \div 2$ _____ | 12. $45 \div 5$ _____ |
| 13. $9 \div 1$ _____ | 14. $72 \div 9$ _____ | 15. $35 \div 5$ _____ |
| 16. $5 \div 5$ _____ | 17. $63 \div 7$ _____ | 18. $18 \div 9$ _____ |
| 19. $18 \div 2$ _____ | 20. $54 \div 6$ _____ | 21. $14 \div 7$ _____ |

22. $6 \overline{)30}$ 23. $5 \overline{)20}$ 24. $4 \overline{)36}$ 25. $9 \overline{)36}$

26. $9 \overline{)81}$ 27. $2 \overline{)14}$ 28. $5 \overline{)30}$ 29. $8 \overline{)72}$

30. $5 \overline{)45}$ 31. $9 \overline{)72}$ 32. $5 \overline{)40}$ 33. $9 \overline{)18}$

34. $2 \overline{)10}$ 35. $9 \overline{)45}$ 36. $5 \overline{)25}$ 37. $9 \overline{)54}$

38. $9 \overline{)45}$ 39. $3 \overline{)27}$ 40. $4 \overline{)20}$ 41. $9 \overline{)63}$

42. The divisor is 9; the dividend is 36. What is the quotient? _____
43. The divisor is 5; the dividend is 45. What is the quotient? _____
44. The dividend is 8; the divisor is 2. What is the quotient? _____
45. The dividend is 36; the divisor is 9. What is the quotient? _____
46. 12 is the dividend; 2 is the divisor. What is the quotient? _____
47. The dividend is 25; the divisor is 5. What is the quotient? _____
48. The dividend is 9; the divisor is 9. What is the quotient? _____
49. The dividend is 63; the divisor is 9. What is the quotient? _____

Answer Key

Dividing with 2, 5, and 9

Find each quotient.

- | | | |
|--------------------------|--------------------------|--------------------------|
| 1. $36 \div 4$ <u>9</u> | 2. $63 \div 9$ <u>7</u> | 3. $25 \div 5$ <u>5</u> |
| 4. $40 \div 5$ <u>8</u> | 5. $16 \div 2$ <u>8</u> | 6. $81 \div 9$ <u>9</u> |
| 7. $35 \div 7$ <u>5</u> | 8. $45 \div 9$ <u>5</u> | 9. $30 \div 5$ <u>6</u> |
| 10. $12 \div 2$ <u>6</u> | 11. $14 \div 2$ <u>7</u> | 12. $45 \div 5$ <u>9</u> |
| 13. $9 \div 1$ <u>9</u> | 14. $72 \div 9$ <u>8</u> | 15. $35 \div 5$ <u>7</u> |
| 16. $5 \div 5$ <u>1</u> | 17. $63 \div 7$ <u>9</u> | 18. $18 \div 9$ <u>2</u> |
| 19. $18 \div 2$ <u>9</u> | 20. $54 \div 6$ <u>9</u> | 21. $14 \div 7$ <u>2</u> |

22. $6 \overline{)30}$ <u>5</u>	23. $5 \overline{)20}$ <u>4</u>	24. $4 \overline{)36}$ <u>9</u>	25. $9 \overline{)36}$ <u>4</u>
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26. $9 \overline{)81}$ <u>9</u>	27. $2 \overline{)14}$ <u>7</u>	28. $5 \overline{)30}$ <u>6</u>	29. $8 \overline{)72}$ <u>9</u>
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30. $5 \overline{)45}$ <u>9</u>	31. $9 \overline{)72}$ <u>8</u>	32. $5 \overline{)40}$ <u>8</u>	33. $9 \overline{)18}$ <u>2</u>
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34. $2 \overline{)10}$ <u>5</u>	35. $9 \overline{)45}$ <u>5</u>	36. $5 \overline{)25}$ <u>5</u>	37. $9 \overline{)54}$ <u>6</u>
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38. $9 \overline{)45}$ <u>5</u>	39. $3 \overline{)27}$ <u>9</u>	40. $4 \overline{)20}$ <u>5</u>	41. $9 \overline{)63}$ <u>7</u>
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- | | |
|---|----------|
| 42. The divisor is 9; the dividend is 36. What is the quotient? | <u>4</u> |
| 43. The divisor is 5; the dividend is 45. What is the quotient? | <u>9</u> |
| 44. The dividend is 8; the divisor is 2. What is the quotient? | <u>4</u> |
| 45. The dividend is 36; the divisor is 9. What is the quotient? | <u>4</u> |
| 46. 12 is the dividend; 2 is the divisor. What is the quotient? | <u>6</u> |
| 47. The dividend is 25; the divisor is 5. What is the quotient? | <u>5</u> |
| 48. The dividend is 9; the divisor is 9. What is the quotient? | <u>1</u> |
| 49. The dividend is 63; the divisor is 9. What is the quotient? | <u>7</u> |

Name _____

Special Quotients

Find each quotient.

1. $27 \div 3 =$ _____ 2. $1 \div 1 =$ _____ 3. $0 \div 6 =$ _____

4. $16 \div 4 =$ _____ 5. $5 \div 1 =$ _____ 6. $0 \div 3 =$ _____

7. $28 \div 28 =$ _____ 8. $40 \div 8 =$ _____ 9. $42 \div 7 =$ _____

10. $21 \div 7 =$ _____ 11. $8 \div 1 =$ _____ 12. $9 \div 9 =$ _____

13. $1\overline{)7}$

14. $4\overline{)0}$

15. $1\overline{)16}$

16. $12\overline{)0}$

17. $6\overline{)36}$

18. $8\overline{)8}$

19. $9\overline{)27}$

20. $7\overline{)7}$

21. $1\overline{)11}$

22. $4\overline{)24}$

23. $1\overline{)8}$

24. $6\overline{)6}$

25. Find the quotient of 4 divided by 4. _____

26. Find the quotient of 0 divided by 9. _____

27. Find the quotient of 6 divided by 1. _____

28. Divide 5 by 5. _____

29. Divide 0 by 12. _____

30. Divide 2 by 1. _____

31. Explain which rule you would use to help you find $0 \div 81$.

32. Explain which rule you would use to help you find $80 \div 1$.

33. Write a fact family for this set of numbers: 3, 1, 3.

34. Write a fact family for this set of numbers: 5, 5, 1.

Answer Key

Special Quotients

Find each quotient.

1. $27 \div 3 = \underline{9}$

2. $1 \div 1 = \underline{1}$

3. $0 \div 6 = \underline{0}$

4. $16 \div 4 = \underline{4}$

5. $5 \div 1 = \underline{5}$

6. $0 \div 3 = \underline{0}$

7. $28 \div 28 = \underline{1}$

8. $40 \div 8 = \underline{5}$

9. $42 \div 7 = \underline{6}$

10. $21 \div 7 = \underline{3}$

11. $8 \div 1 = \underline{8}$

12. $9 \div 9 = \underline{1}$

13. $1 \overline{)7}$

14. $4 \overline{)0}$

15. $1 \overline{)16}$

16. $12 \overline{)0}$

17. $6 \overline{)36}$

18. $8 \overline{)8}$

19. $9 \overline{)27}$

20. $7 \overline{)7}$

21. $1 \overline{)11}$

22. $4 \overline{)24}$

23. $1 \overline{)8}$

24. $6 \overline{)6}$

25. Find the quotient of 4 divided by 4. $\underline{1}$

26. Find the quotient of 0 divided by 9. $\underline{0}$

27. Find the quotient of 6 divided by 1. $\underline{6}$

28. Divide 5 by 5. $\underline{1}$

29. Divide 0 by 12. $\underline{0}$

30. Divide 2 by 1. $\underline{2}$

31. Explain which rule you would use to help you find $0 \div 81$.

0 divided by any number (except 0) is 0 .

32. Explain which rule you would use to help you find $80 \div 1$.

Any number divided by 1 is that number.

33. Write a fact family for this set of numbers: 3, 1, 3.

$3 \times 1 = 3, 1 \times 3 = 3, 3 \div 1 = 3, 3 \div 3 = 1$

34. Write a fact family for this set of numbers: 5, 5, 1.

$5 \times 1 = 5, 1 \times 5 = 5, 5 \div 1 = 5, 5 \div 5 = 1$

Name _____

Dividing with 3 and 4

Find each quotient.

1. $28 \div 4 =$ _____

2. $18 \div 3 =$ _____

3. $20 \div 4 =$ _____

4. $16 \div 4 =$ _____

5. $21 \div 3 =$ _____

6. $8 \div 4 =$ _____

7. $24 \div 3 =$ _____

8. $27 \div 3 =$ _____

9. $9 \div 3 =$ _____

10. $32 \div 4 =$ _____

11. $3 \div 3 =$ _____

12. $21 \div 3 =$ _____

13. $0 \div 3 =$ _____

14. $0 \div 4 =$ _____

15. $12 \div 4 =$ _____

16. $3 \overline{)27}$

17. $9 \overline{)36}$

18. $4 \overline{)24}$

19. $3 \overline{)18}$

20. $7 \overline{)28}$

21. $7 \overline{)21}$

22. $9 \overline{)27}$

23. $4 \overline{)16}$

24. $8 \overline{)32}$

25. $8 \overline{)24}$

26. $3 \overline{)24}$

27. $3 \overline{)27}$

28. $2 \overline{)6}$

29. $3 \overline{)15}$

30. $3 \overline{)21}$

31. $3 \overline{)6}$

32. $6 \overline{)24}$

33. $4 \overline{)4}$

34. $1 \overline{)3}$

35. $4 \overline{)36}$

36. Divide 18 by 3. _____

37. Divide 16 by 4. _____

38. Divide 28 by 4. _____

39. Divide 21 by 3. _____

40. What multiplication fact can help you find $15 \div 3$? _____

41. What multiplication fact can help you find $36 \div 4$? _____

Answer Key

Dividing with 3 and 4

Find each quotient.

1. $28 \div 4 = \underline{7}$

2. $18 \div 3 = \underline{6}$

3. $20 \div 4 = \underline{5}$

4. $16 \div 4 = \underline{4}$

5. $21 \div 3 = \underline{7}$

6. $8 \div 4 = \underline{2}$

7. $24 \div 3 = \underline{8}$

8. $27 \div 3 = \underline{9}$

9. $9 \div 3 = \underline{3}$

10. $32 \div 4 = \underline{8}$

11. $3 \div 3 = \underline{1}$

12. $21 \div 3 = \underline{7}$

13. $0 \div 3 = \underline{0}$

14. $0 \div 4 = \underline{0}$

15. $12 \div 4 = \underline{3}$

16. $3 \overline{)27}$
9

17. $9 \overline{)36}$
4

18. $4 \overline{)24}$
6

19. $3 \overline{)18}$
6

20. $7 \overline{)28}$
4

21. $7 \overline{)21}$
3

22. $9 \overline{)27}$
3

23. $4 \overline{)16}$
4

24. $8 \overline{)32}$
4

25. $8 \overline{)24}$
3

26. $3 \overline{)24}$
8

27. $3 \overline{)27}$
9

28. $2 \overline{)6}$
3

29. $3 \overline{)15}$
5

30. $3 \overline{)21}$
7

31. $3 \overline{)6}$
2

32. $6 \overline{)24}$
4

33. $4 \overline{)4}$
1

34. $1 \overline{)3}$
3

35. $4 \overline{)36}$
9

36. Divide 18 by 3. 6

37. Divide 16 by 4. 4

38. Divide 28 by 4. 7

39. Divide 21 by 3. 7

40. What multiplication fact can help you find $15 \div 3$? $5 \times 3 = 15$

41. What multiplication fact can help you find $36 \div 4$? $9 \times 4 = 36$

Name _____

Dividing with 6, 7, and 8

Find each quotient.

1. $0 \div 8 =$ _____ 2. $6 \div 6 =$ _____ 3. $28 \div 7 =$ _____

4. $24 \div 8 =$ _____ 5. $18 \div 6 =$ _____ 6. $54 \div 6 =$ _____

7. $36 \div 6 =$ _____ 8. $30 \div 6 =$ _____ 9. $56 \div 7 =$ _____

10. $12 \div 6 =$ _____ 11. $12 \div 6 =$ _____ 12. $24 \div 6 =$ _____

13. $14 \div 7 =$ _____ 14. $56 \div 8 =$ _____ 15. $48 \div 8 =$ _____

16. $8 \overline{)64}$

17. $6 \overline{)48}$

18. $5 \overline{)40}$

19. $7 \overline{)63}$

20. $8 \overline{)16}$

21. $6 \overline{)42}$

22. $7 \overline{)49}$

23. $8 \overline{)72}$

24. $9 \overline{)72}$

25. $7 \overline{)7}$

26. $3 \overline{)24}$

27. $7 \overline{)0}$

28. $8 \overline{)40}$

29. $7 \overline{)42}$

30. $7 \overline{)21}$

31. $8 \overline{)32}$

32. $2 \overline{)16}$

33. $9 \overline{)63}$

34. $9 \overline{)54}$

35. $4 \overline{)28}$

36. Divide 63 by 7. _____

37. Divide 54 by 6. _____

38. Divide 35 by 7. _____

39. Divide 48 by 8. _____

40. Divide 56 by 8. _____

41. Divide 64 by 8. _____

42. What multiplication fact can help you find $40 \div 8$? _____

43. What multiplication fact can help you find $63 \div 9$? _____

Answer Key

Dividing with 6, 7, and 8

Find each quotient.

1. $0 \div 8 = \underline{0}$ 2. $6 \div 6 = \underline{1}$ 3. $28 \div 7 = \underline{4}$

4. $24 \div 8 = \underline{3}$ 5. $18 \div 6 = \underline{3}$ 6. $54 \div 6 = \underline{9}$

7. $36 \div 6 = \underline{6}$ 8. $30 \div 6 = \underline{5}$ 9. $56 \div 7 = \underline{8}$

10. $12 \div 6 = \underline{2}$ 11. $12 \div 6 = \underline{2}$ 12. $24 \div 6 = \underline{4}$

13. $14 \div 7 = \underline{2}$ 14. $56 \div 8 = \underline{7}$ 15. $48 \div 8 = \underline{6}$

16. $8 \overline{)64}$ 17. $6 \overline{)48}$ 18. $5 \overline{)40}$ 19. $7 \overline{)63}$

20. $8 \overline{)16}$ 21. $6 \overline{)42}$ 22. $7 \overline{)49}$ 23. $8 \overline{)72}$

24. $9 \overline{)72}$ 25. $7 \overline{)7}$ 26. $3 \overline{)24}$ 27. $7 \overline{)0}$

28. $8 \overline{)40}$ 29. $7 \overline{)42}$ 30. $7 \overline{)21}$ 31. $8 \overline{)32}$

32. $2 \overline{)16}$ 33. $9 \overline{)63}$ 34. $9 \overline{)54}$ 35. $4 \overline{)28}$

36. Divide 63 by 7. $\underline{9}$

37. Divide 54 by 6. $\underline{9}$

38. Divide 35 by 7. $\underline{5}$

39. Divide 48 by 8. $\underline{6}$

40. Divide 56 by 8. $\underline{7}$

41. Divide 64 by 8. $\underline{8}$

42. What multiplication fact can help you find $40 \div 8$? $\underline{8 \times 5 = 40}$

43. What multiplication fact can help you find $63 \div 9$? $\underline{9 \times 7 = 63}$

Name _____

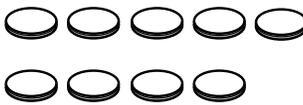
Exploring Even and Odd Numbers

1. What digits do even numbers have in the ones place?

2. What digits do odd numbers have in the ones place?

Write *odd* or *even* for each. You may use counters or draw pictures.

3. 

4. 

5. 

6. 

7. 63 _____

8. 33 _____

9. 98 _____

10. 72 _____

11. 24 _____

12. 45 _____

13. Start with 33 and name the next 4 odd numbers. Explain how you know which numbers are odd.

14. If you add 5 even numbers, will the sum be odd or even? _____

15. If you add 2 odd numbers, will the sum be odd or even? _____

16. If you add 4 odd numbers, will the sum be odd or even? _____

Complete the pattern. Then write *odd* or *even* for each group.

17. 317, 315, 313, _____, _____, _____ _____

18. 2,074; 2,076; 2,078; _____; _____; _____ _____

19. 502, 504, 506, _____, _____, _____ _____

Answer Key

Exploring Even and Odd Numbers

1. What digits do even numbers have in the ones place?

0, 2, 4, 6, or 8

2. What digits do odd numbers have in the ones place?

1, 3, 5, 7, or 9

Write *odd* or *even* for each. You may use counters or draw pictures.



Even



Odd



Even



Odd

7. 63 Odd

8. 33 Odd

9. 98 Even

10. 72 Even

11. 24 Even

12. 45 Odd

13. Start with 33 and name the next 4 odd numbers. Explain how you know which numbers are odd.

35, 37, 39, 41. Not evenly divisible by 2.

14. If you add 5 even numbers, will the sum be odd or even? Even

15. If you add 2 odd numbers, will the sum be odd or even? Even

16. If you add 4 odd numbers, will the sum be odd or even? Even

Complete the pattern. Then write *odd* or *even* for each group.

17. 317, 315, 313, 311, 309, 307 Odd

18. 2,074; 2,076; 2,078; 2,080; 2,082; 2,084 Even

19. 502, 504, 506, 508, 510, 512 Even

HOMEWORK RELIEF CENTER

Dividing by 1-Digit Divisors: Math Hints and Reminders

Dividing Multiples of 10, 100, and 1,000

Once you have a basic division fact down, like $6 \div 3 = 2$, dividing tens and hundreds is just a matter of tacking on the right number of zeros! Take a look at the pattern:

$6 \div 3 = 2$	is	$6 \text{ ones} \div 3 = 2 \text{ ones}$
$60 \div 3 = 20$	is	$6 \text{ tens} \div 3 = 2 \text{ tens}$
$600 \div 3 = 200$	is	$6 \text{ hundreds} \div 3 = 2 \text{ hundreds}$

To find the quotient for $320 \div 4$, find the basic fact ($8 \times 4 = 32$), then count the number of zeros in the dividend and tack them onto the quotient: $320 \div 4 = 80$.

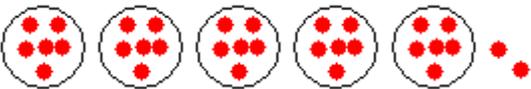
Estimating Quotients

Once you have your basic division facts down, estimating the answers to bigger problems is just a matter of tweaking the dividend, dividing, and tacking on the right number of zeros.

To estimate the quotient of $436 \div 5$	
Underline the first two numbers in the dividend →	<u>43</u> 6 ÷ 5
Find the closest number that 5 goes into evenly →	You could choose 40 or 45
Write the basic fact →	$40 \div 5 = 8$ or $45 \div 5 = 9$
Add a 0 to the basic fact for every digit not underlined →	$400 \div 5 = 80$ or $450 \div 5 = 90$
The answer could be either 80 or 90. 80 is less than the exact answer, because 40 is less than 43. 90 is greater than the exact answer, because 45 is greater than 43.	

Exploring Division with Remainders

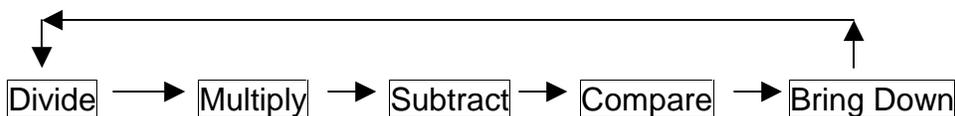
Numbers don't always divide evenly – sometimes there are leftovers or remainders. To help you get the hang of how division with remainders works, break out the beans, pasta, or pennies, and start counting!

Find $32 \div 5$	
What You See	What You Write
<p>Divvy 32 counters into 5 equal groups.</p>  <ul style="list-style-type: none"> • How many counters are in each group? (6) • How many counters are left over? (2) • The quotient is 6. The remainder is 2. 	$\begin{array}{r} \underline{6} \text{ R}2 \\ 5 \overline{) 32} \\ \underline{-30} \\ 2 \leftarrow \text{Remainder} \end{array}$

HOMEWORK RELIEF CENTER

Dividing Multidigit Dividends

A flow chart can really help you remember the steps involved in solving a division problem.



Follow the chart as you divide, pointing to or saying each step as you work. Give this one a try:

Find $67 \div 3$	
6 is greater than 3, so start dividing in the tens place.	Bring down the ones and divide.
$\begin{array}{r} 2 \\ 3 \overline{) 67} \\ \underline{-6} \\ 0 \end{array}$	$\begin{array}{r} 22 \text{ R}1 \\ 3 \overline{) 67} \\ \underline{-6} \downarrow \\ 07 \\ \underline{-6} \\ 1 \end{array}$
Multiply. $3 \times 2 = 6$	Multiply. $3 \times 2 = 6$
Subtract. $6 - 6 = 0$	Subtract. $7 - 6 = 1$
Compare the remainder with the divisor. $0 < 3$	Compare. $1 < 3$

If the dividend has more than two numbers, just repeat the steps until there are no more numbers to bring down.

2- or 3-Digit Quotients

Remember, you always start solving a division problem by looking at the number in the greatest place of the dividend and comparing this number to the divisor. If this number is less than the divisor, move over one place to the right and look at the number again. Take $546 \div 6$ for example:

5 is less than 6, so you would begin dividing in the tens place. Your answer will have 2 digits. Think: How many times does 6 go into 54?

$$\begin{array}{r} 91 \\ 6 \overline{) 546} \end{array}$$

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Zeros in the Quotient

It's time to brush off an old multiplication fact: $0 \times \text{any number} = 0$. This fact will come in handy when you're cruising through a division problem and you run into a number that's less than the divisor.

Find $527 \div 5$		
Divide the hundreds. $\begin{array}{r} \underline{1} \\ 5 \overline{)527} \\ \underline{-5} \\ 0 \end{array}$ Multiply. $5 \times 1 = 5$ Subtract. $5 - 5 = 0$ Compare. $0 < 5$	There aren't enough tens to divide. So think: 5 goes into 2 how many times? 0 times. $\begin{array}{r} \underline{10} \\ 5 \overline{)527} \\ \underline{-5} \downarrow \\ 02 \end{array}$ Multiply. $5 \times 0 = 0$ Subtract. $2 - 0 = 2$ Compare. $2 < 5$	Bring down the ones and divide. $\begin{array}{r} \underline{105} \text{ R}2 \\ 5 \overline{)527} \\ \underline{-5} \downarrow \downarrow \\ 02 \downarrow \\ \underline{-0} \downarrow \\ 27 \end{array}$ Multiply. $5 \times 5 = 25$ Subtract. $27 - 25 = 2$ Compare. $2 < 5$
Bring down the tens and divide... But wait! 2 is less than 5.	$\begin{array}{r} \underline{0} \\ 5 \overline{)527} \\ \underline{-0} \\ 2 \end{array}$	$\begin{array}{r} \underline{25} \\ 5 \overline{)527} \\ \underline{-25} \\ 2 \end{array}$

Exploring Division with Money and Dividing Money Amounts

Dividing money is just like dividing other numbers, but with an added twist! When you're done dividing, "bring up" the dollar sign and the decimal point, and, if necessary, write a 0 between them:

$$\begin{array}{r} \underline{\$0.40} \\ 3 \overline{)\$1.20} \end{array}$$

Finding Averages

To find the mean – or average – of a group of numbers, you need to add all the numbers in the group and then divide that sum by the number of members in the group.

Find the mean of 12, 16, and 8.	
Add: $\begin{array}{r} 12 \\ 16 \\ +8 \\ \hline 36 \end{array}$	$\begin{array}{r} \underline{12} \\ 3 \overline{)36} \\ \underline{3} \downarrow \\ 06 \\ \underline{6} \\ 0 \end{array}$
There are 3 numbers in the group. Their sum is 36.	Divide the sum (36) by the number of members in the group (3).
The mean for this set of numbers is 12.	

homework relief center

Exploring Divisibility

When a number can divide another number evenly, without a remainder, it is divisible by that number. Memorizing a few rules about divisibility can really save you time in solving division problems. Here's a table of divisibility rules for you to refer to and memorize.

#	Rule	Example
2	Even numbers – numbers that end in 0, 2, 4, 6, or 8 – are divisible by 2.	398 is divisible by 2 because it's an even number.
3	A number is divisible by 3 when the sum of its digits is divisible by 3.	246 divisible by 3 because $2 + 4 + 6 = 12$. And 12 is divisible by 3.
4	A number is divisible by 4 if the number formed by the tens and ones place is divisible by 4.	<u>53</u> 2 is divisible by 4 because 32 is divisible by 4.
5	A number is divisible by 5 when it ends in 5 or 0.	940 is divisible by 5 because it ends in 0.
6	A number is divisible by 6 if the number is also divisible by 2 and 3.	246. You know it's divisible by 3 (see above). It's also divisible by 2 because it's an even number. So, it's divisible by 6.
9	A number is divisible by 9 when the sum of its digits is divisible by 9.	747 is divisible by 9 because $7 + 4 + 7 = 18$. And 18 is divisible by 9.
10	A number is divisible by 10 when it is divisible by both 2 and 5, and ends in a 0.	660 is divisible by 10 because it ends in a 0.

Name _____

Mental Math: Dividing Multiples of 10, 100, and 1,000

Find $16,000 \div 8$.

Use a basic fact and look for a pattern with zeros.

$$\begin{array}{l} 16 \div 8 = 2 \\ 16\mathbf{0} \div 8 = \mathbf{20} \\ 1,6\mathbf{00} \div 8 = \mathbf{200} \\ 16,\mathbf{000} \div 8 = \mathbf{2,000} \\ \\ 16,000 \div 8 = 2,000 \leftarrow \text{quotient} \\ \begin{array}{c} \uparrow \qquad \uparrow \\ \text{dividend} \quad \text{divisor} \end{array} \end{array}$$

Check by using related multiplication sentences.

$$\begin{array}{l} 2 \times 8 = 16 \rightarrow 16 \div 8 = 2 \qquad 200 \times 8 = 1,600 \rightarrow 1,600 \div 8 = 200 \\ 20 \times 8 = 160 \rightarrow 160 \div 8 = 20 \qquad 2,000 \times 8 = 16,000 \rightarrow 16,000 \div 8 = 2,000 \end{array}$$

1. $90 \div 3$ 2. $320 \div 4$ 3. $4,800 \div 6$ 4. $54,000 \div 9$

5. $60 \div 2$ 6. $800 \div 4$ 7. $40,000 \div 5$ 8. $72,000 \div 8$

9. A sticker maker packed 45,000 stickers in 9 boxes.
How many stickers were in each box?

10. A cereal company packs 6 boxes of cereal in a crate.
How many crates are needed to store 3,000 boxes of cereal?

11. Marty has 420 stamps in his collection. If he puts 7 stickers on
each page of his stamp album, how many pages will he use?

Answer Key

Mental Math: Dividing Multiples of 10, 100, and 1,000

Find $16,000 \div 8$.

Use a basic fact and look for a pattern with zeros.

$$\begin{array}{r} 16 \div 8 = 2 \\ 160 \div 8 = 20 \\ 1,600 \div 8 = 200 \\ 16,000 \div 8 = 2,000 \end{array}$$

$$16,000 \div 8 = 2,000 \quad \leftarrow \text{quotient}$$

\uparrow \uparrow
dividend **divisor**

Check by using related multiplication sentences.

$$\begin{array}{l} 2 \times 8 = 16 \quad \rightarrow \quad 16 \div 8 = 2 \qquad 200 \times 8 = 1,600 \quad \rightarrow \quad 1,600 \div 8 = 200 \\ 20 \times 8 = 160 \quad \rightarrow \quad 160 \div 8 = 20 \qquad 2,000 \times 8 = 16,000 \quad \rightarrow \quad 16,000 \div 8 = 2,000 \end{array}$$

1. $90 \div 3$

30

2. $320 \div 4$

80

3. $4,800 \div 6$

800

4. $54,000 \div 9$

6,000

5. $60 \div 2$

30

6. $800 \div 4$

200

7. $40,000 \div 5$

8,000

8. $72,000 \div 8$

9,000

9. A sticker maker packed 45,000 stickers in 9 boxes.
How many stickers were in each box?

5,000 stickers

10. A cereal company packs 6 boxes of cereal in a crate.
How many crates are needed to store 3,000 boxes of cereal?

500 crates

11. Marty has 420 stamps in his collection. If he puts 7 stickers on
each page of his stamp album, how many pages will he use?

60 pages

Name _____

Estimating Quotients

Estimate each quotient. Write the numbers you used.

1. $273 \div 3$

2. $77 \div 4$

3. $291 \div 7$

4. $59 \div 6$

5. $122 \div 3$

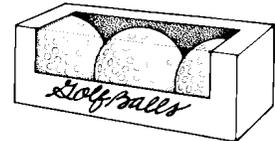
6. $439 \div 5$

7. $328 \div 4$

8. $2,350 \div 8$

9. $7,000 \div 9$

- 10. Math Reasoning** A store has a total of 231 golf balls. There are 3 golf balls in a package. About how many packages of golf balls are there?



- 11.** Angelina has 125 peonies in her flower shop. About how many bouquets of 6 peonies can she make?

Test Prep Circle the correct letter for each answer.

- 12.** Which expression would give the best estimate for $46 \div 5$?

A $50 \div 5$

B $45 \div 5$

C $35 \div 5$

D $30 \div 5$

- 13.** Which expression would give the best estimate for $87 \div 9$?

F $54 \div 9$

G $63 \div 9$

H $81 \div 9$

J $90 \div 9$

Answer Key

Estimating Quotients

Estimate each quotient. Write the numbers you used. **Answers may vary.**

1. $273 \div 3$

90; $270 \div 3$

2. $77 \div 4$

20; $80 \div 4$

3. $291 \div 7$

40; $280 \div 7$

4. $59 \div 6$

10; $60 \div 6$

5. $122 \div 3$

40; $120 \div 3$

6. $439 \div 5$

90; $450 \div 5$

7. $328 \div 4$

80; $320 \div 4$

8. $2,350 \div 8$

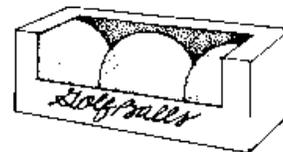
300; $2,400 \div 8$

9. $7,000 \div 9$

800; $7,200 \div 9$

- 10. Math Reasoning** A store has a total of 231 golf balls. There are 3 golf balls in a package. About how many packages of golf balls are there?

About 80 packages



- 11.** Angelina has 125 peonies in her flower shop. About how many bouquets of 6 peonies can she make?

About 20 bouquets

Test Prep Circle the correct letter for each answer.

- 12.** Which expression would give the best estimate for $46 \div 5$?

A $50 \div 5$

B $45 \div 5$

C $35 \div 5$

D $30 \div 5$

- 13.** Which expression would give the best estimate for $87 \div 9$?

F $54 \div 9$

G $63 \div 9$

H $81 \div 9$

J $90 \div 9$

Name _____

Exploring Division with Remainders



1. Use the counters above to find $4\overline{)15}$
 - a. First, circle as many groups of 4 as you can.
How many groups of 4 are there? _____
 - b. Count how many counters are left over.
What is the remainder? _____
 - c. $4\overline{)15} = \square R \square$

Find each quotient. Each one will have a remainder. You may use counters to help you.

2. $8\overline{)33} \square R \square$

3. $5\overline{)28} \square R \square$

4. $7\overline{)64} \square R \square$

5. $6\overline{)26} \square R \square$

6. $8\overline{)49} \square R \square$

7. $3\overline{)23} \square R \square$

8. $7\overline{)55} \square R \square$

9. $5\overline{)19} \square R \square$

10. $4\overline{)31} \square R \square$

11. $6\overline{)31} \square R \square$

12. $7\overline{)50} \square R \square$

13. $8\overline{)66} \square R \square$

Answer Key _____

Exploring Division with Remainders



1. Use the counters above to find $4\overline{)15}$
 - a. First, circle as many groups of 4 as you can.
How many groups of 4 are there? 3
 - b. Count how many counters are left over.
What is the remainder? 3
 - c. $4\overline{)15} = \boxed{3} \text{ R } \boxed{3}$

Find each quotient. Each one will have a remainder. You may use counters to help you.

2. $8\overline{)33} = \boxed{4} \text{ R } \boxed{1}$

3. $5\overline{)28} = \boxed{5} \text{ R } \boxed{3}$

4. $7\overline{)64} = \boxed{9} \text{ R } \boxed{1}$

5. $6\overline{)26} = \boxed{4} \text{ R } \boxed{2}$

6. $8\overline{)49} = \boxed{6} \text{ R } \boxed{1}$

7. $3\overline{)23} = \boxed{7} \text{ R } \boxed{2}$

8. $7\overline{)55} = \boxed{7} \text{ R } \boxed{6}$

9. $5\overline{)19} = \boxed{3} \text{ R } \boxed{4}$

10. $4\overline{)31} = \boxed{7} \text{ R } \boxed{3}$

11. $6\overline{)31} = \boxed{5} \text{ R } \boxed{1}$

12. $7\overline{)50} = \boxed{7} \text{ R } \boxed{1}$

13. $8\overline{)66} = \boxed{8} \text{ R } \boxed{2}$

Name _____

Dividing Two-Digit Numbers with Remainders

1. $2\overline{)39}$

2. $3\overline{)46}$

3. $8\overline{)58}$

4. $4\overline{)51}$

5. $4\overline{)94}$

6. $7\overline{)61}$

7. $6\overline{)77}$

8. $3\overline{)38}$

9. $73 \div 4$ _____

10. $98 \div 5$ _____

11. $63 \div 5$ _____

12. $85 \div 3$ _____

13. $52 \div 3$ _____

14. $76 \div 6$ _____

- 15. Math Reasoning** Tom made 61 sandwiches for the party. A tray holds 8 sandwiches. How many trays of sandwiches did he have? How many sandwiches were left over?

Test Prep Circle the correct letter for each answer.

- 16.** Judy has 35 dolls. She wants to put an equal number on each of 3 shelves. How many will fit on each shelf? How many will be left over?

A 11 on each shelf; 2 left over

C 12 on each shelf; 1 left over

B 12 on each shelf; 0 left over

D 13 on each shelf; 3 left over

- 17.** If you divide a number by 7, which number could the remainder **NOT** be?

F 2

G 5

H 6

J 8

Answer Key

Dividing Two-Digit Numbers with Remainders

1. $2 \overline{)39}$ **19 R1**

2. $3 \overline{)46}$ **15 R1**

3. $8 \overline{)58}$ **7 R2**

4. $4 \overline{)51}$ **12 R3**

5. $4 \overline{)94}$ **23 R2**

6. $7 \overline{)61}$ **8 R5**

7. $6 \overline{)77}$ **12 R5**

8. $3 \overline{)38}$ **12 R2**

9. $73 \div 4$ **18 R1**

10. $98 \div 5$ **19 R3**

11. $63 \div 5$ **12 R3**

12. $85 \div 3$ **28 R1**

13. $52 \div 3$ **17 R1**

14. $76 \div 6$ **12 R4**

- 15. Math Reasoning** Tom made 61 sandwiches for the party. A tray holds 8 sandwiches. How many trays of sandwiches did he have? How many sandwiches were left over?

7 trays; 5 sandwiches left over

Test Prep Circle the correct letter for each answer.

- 16.** Judy has 35 dolls. She wants to put an equal number on each of 3 shelves. How many will fit on each shelf? How many will be left over?

A 11 on each shelf; 2 left over

C 12 on each shelf; 1 left over

B 12 on each shelf; 0 left over

D 13 on each shelf; 3 left over

- 17.** If you divide a number by 7, which number could the remainder **NOT** be?

F 2

G 5

H 6

J 8

Name _____

Dividing Multidigit Numbers

1. $6 \overline{)832}$

2. $999 \div 5$

3. $3,846 \div 7$

4. $4 \overline{)57,712}$

5. $4,566 \div 4$

6. $8 \overline{)22,619}$

7. $47,016 \div 9$

8. $3 \overline{)89,698}$

Rule: Divide by 4.

	Input	Output
9.	96	
10.	268	
11.	2,092	

Rule: Divide by 7.

	Input	Output
12.	84	
13.	616	
14.	3,157	

Rule: Divide by 3.

	Input	Output
15.	39	
16.	2,784	
17.	13,569	

18. Suppose you have 136 bagels. You want to put 6 bagels in each bag. Will you have more or fewer than 20 bags with exactly 6 bagels? Explain.

19. Algebra Solve: $3n = 426$

20. Algebra Solve: $5x = 22,120$

Test Prep Circle the correct letter for each answer.

21. In the problem $982 \div 5$, which number **cannot** be the remainder?

A 3

B 4

C 5

D 6

22. The 5 families in the neighborhood bought new playground equipment for \$4,625. How much did each family pay for the equipment?

F \$225

G \$500

H \$925

J \$1,200

Answer Key

Dividing Multidigit Numbers

1. $6 \overline{)832}$

138 R4

2. $999 \div 5$

199 R4

3. $3,846 \div 7$

549 R3

4. $4 \overline{)57,712}$

14,428

5. $4,566 \div 4$

1,141 R2

6. $8 \overline{)22,619}$

2,827 R3

7. $47,016 \div 9$

5,224

8. $3 \overline{)89,698}$

29,899 R1

Rule: Divide by 4.

Rule: Divide by 7.

Rule: Divide by 3.

	Input	Output
9.	96	24
10.	268	67
11.	2,092	523

	Input	Output
12.	84	12
13.	616	88
14.	3,157	451

	Input	Output
15.	39	13
16.	2,784	928
17.	13,569	4,523

18. Suppose you have 136 bagels. You want to put 6 bagels in each bag. Will you have more or fewer than 20 bags with exactly 6 bagels? Explain.

$136 \div 6 = 22 \text{ R}4$ The quotient is greater than 20.

You will have more than 20 bags.

19. Algebra Solve: $3n = 426$

$n = 142$

20. Algebra Solve: $5x = 22,120$

$x = 4,424$

Test Prep Circle the correct letter for each answer.

21. In the problem $982 \div 5$, which number **cannot** be the remainder?

A 3

B 4

C 5

(D) 6

22. The 5 families in the neighborhood bought new playground equipment for \$4,625. How much did each family pay for the equipment?

F \$225

G \$500

(H) \$925

J \$1,200

Name _____

2- or 3-Digit Quotients

Divide. Check your answer.

1. $4 \overline{)168}$

2. $5 \overline{)370}$

3. $8 \overline{)296}$

4. $4 \overline{)421}$

5. $2 \overline{)227}$

6. $8 \overline{)475}$

7. $9 \overline{)445}$

8. $7 \overline{)651}$

9. $6 \overline{)844}$

10. $4 \overline{)825}$

11. $9 \overline{)703}$

12. $5 \overline{)985}$

13. $631 \div 2 =$ _____

14. $713 \div 3 =$ _____

15. Find the quotient for 515 divided by 8. _____

16. Find the quotient for 744 divided by 6. _____

17. Explain how you know where to start dividing to find the quotient for 63 divided by 7.

Answer Key _____

2- or 3-Digit Quotients

Divide. Check your answer.

1. $4 \overline{)168}$ **42**

2. $5 \overline{)370}$ **74**

3. $8 \overline{)296}$ **37**

4. $4 \overline{)421}$ **105 R1**

5. $2 \overline{)227}$ **113 R1**

6. $8 \overline{)475}$ **59 R3**

7. $9 \overline{)445}$ **49 R4**

8. $7 \overline{)651}$ **93**

9. $6 \overline{)844}$ **140 R4**

10. $4 \overline{)825}$ **206 R1**

11. $9 \overline{)703}$ **78 R1**

12. $5 \overline{)985}$ **197**

13. $631 \div 2 =$ **315 R1**

14. $713 \div 3 =$ **237 R2**

15. Find the quotient for 515 divided by 8. **64 R3**

16. Find the quotient for 744 divided by 6. **124**

17. Explain how you know where to start dividing to find the quotient for 630 divided by 7.

Answers will vary. Possible answer: Compare 7 to the digit in the hundreds place. Since $7 > 6$, the quotient starts in the tens place.

Name _____

Zeros in the Quotient

1. $6 \overline{)636}$

2. $800 \div 5$

3. $4,255 \div 7$

4. $6 \overline{)4,250}$

5. $5,630 \div 4$

6. $8,910 \div 9$

7. $3 \overline{)28,711}$

8. $25,636 \div 8$

9. Five medium-sized strawberries have about 1,000 seeds. About how many seeds does each strawberry contain?

10. Mary Beth has 215 stickers. She wants to fill 2 albums with the same number of stickers in each. How many stickers will be in each album? How many will be left over?

11. **Math Reasoning** Joan divided 483 by 6 and got 8 R3. Use estimation to explain why this quotient must be wrong. Then do the division and explain the mistake Joan made.

Test Prep Circle the correct letter for each answer.

12. The shipping department has 5,648 compact disks to put into boxes. If each box holds 8 disks, how many boxes are needed?

A 70 boxes

B 706 boxes

C 718 boxes

D 7,060 boxes

13. Deirdre decorates cakes 5 days a week. If she decorates 200 cakes in one week and decorates the same number each day, how many cakes does she decorate each day?

F 4 cakes

H 52 cakes

G 40 cakes

J 80 cakes

Answer Key

Zeros in the Quotient

1. $6 \overline{)636}$

106

2. $800 \div 5$

160

3. $4,255 \div 7$

607 R6

4. $6 \overline{)4,250}$

708 R2

5. $5,630 \div 4$

1,407 R2

6. $8,910 \div 9$

990

7. $3 \overline{)28,711}$

9,570 R1

8. $25,636 \div 8$

3,204 R4

9. Five medium-sized strawberries have about 1,000 seeds. About how many seeds does each strawberry contain?

About 200 seeds

10. Mary Beth has 215 stickers. She wants to fill 2 albums with the same number of stickers in each. How many stickers will be in each album? How many will be left over?

107 stickers; 1 sticker left over

11. **Math Reasoning** Joan divided 483 by 6 and got 8 R3. Use estimation to explain why this quotient must be wrong. Then do the division and explain the mistake Joan made.

Estimation: $480 \div 6 = 80$; division: $483 \div 6 = 80 \text{ R}3$; she omitted the zero in the quotient.

Test Prep Circle the correct letter for each answer.

12. The shipping department has 5,648 compact disks to put into boxes. If each box holds 8 disks, how many boxes are needed?

A 70 boxes

B 706 boxes

C 718 boxes

D 7,060 boxes

13. Deirdre decorates cakes 5 days a week. If she decorates 200 cakes in one week and decorates the same number each day, how many cakes does she decorate each day?

F 4 cakes

H 52 cakes

G 40 cakes

J 80 cakes

Name _____

Exploring Division with Money

Complete. Find each quotient. Use play money to help.

$$\begin{array}{r}
 \$1.\square\square \\
 1. 5 \overline{) \$8.55} \\
 - 5 \\
 \hline
 \square 5 \\
 - 35 \\
 \hline
 0 \square \\
 - \square \square \\
 \hline
 \square
 \end{array}$$

$$\begin{array}{r}
 \$\square.\square\square \\
 2. 4 \overline{) \$4.28} \\
 - 4 \\
 \hline
 \square 2 \\
 - 0 \\
 \hline
 2 \square \\
 - \square \square \\
 \hline
 \square
 \end{array}$$

$$\begin{array}{r}
 \$\square.\square\square \\
 3. 5 \overline{) \$8.10} \\
 - 5 \\
 \hline
 \square 1 \\
 - 30 \\
 \hline
 \square \square \\
 - \square \square \\
 \hline
 \square
 \end{array}$$

$$\begin{array}{r}
 \$\square.\square\square \\
 4. 3 \overline{) \$5.61} \\
 - 3 \\
 \hline
 2 \square \\
 - 24 \\
 \hline
 \square \square \\
 - \square \square \\
 \hline
 \square
 \end{array}$$

$$\begin{array}{r}
 \$0.\square\square \\
 5. 2 \overline{) \$1.54} \\
 - 14 \\
 \hline
 \square \square \\
 - \square \square \\
 \hline
 \square
 \end{array}$$

$$\begin{array}{r}
 \$\square.\square\square \\
 6. 3 \overline{) \$9.09} \\
 - 9 \\
 \hline
 0 \square \square \\
 - \square \\
 \hline
 \square
 \end{array}$$

$$\begin{array}{r}
 \$\square.\square\square \\
 7. 5 \overline{) \$4.70} \\
 - \square 5 \\
 \hline
 \square \square \\
 - 20 \\
 \hline
 \square
 \end{array}$$

$$\begin{array}{r}
 \$\square.0\square \\
 8. 3 \overline{) \$6.12} \\
 - 6 \\
 \hline
 0 \square \\
 - 0 \\
 \hline
 \square \square \\
 - \square \square \\
 \hline
 \square
 \end{array}$$

$$\begin{array}{r}
 \$\square.\square\square \\
 9. 2 \overline{) \$8.56} \\
 - \square \\
 \hline
 0 \square \\
 - \square \\
 \hline
 \square \square \\
 - \square \square \\
 \hline
 \square
 \end{array}$$

$$\begin{array}{r}
 \$\square.\square\square \\
 10. 5 \overline{) \$4.85} \\
 - 4 \square \\
 \hline
 \square 5 \\
 - \square \square \\
 \hline
 \square
 \end{array}$$

$$\begin{array}{r}
 \$\square.\square\square \\
 11. 4 \overline{) \$8.48} \\
 - \square \\
 \hline
 \square 4 \\
 - 4 \\
 \hline
 \square \square \\
 - \square \square \\
 \hline
 \square
 \end{array}$$

$$\begin{array}{r}
 \$\square.\square\square \\
 12. 8 \overline{) \$8.32} \\
 - \square \\
 \hline
 \square 3 \\
 - 0 \\
 \hline
 3 \square \\
 - 32 \\
 \hline
 \square
 \end{array}$$

Exploring Division with Money

Complete. Find each quotient. Use play money to help.

$$\begin{array}{r} \$1.\boxed{7}\boxed{1} \\ 1. 5 \overline{) \$8.55} \\ \underline{- 5} \\ \boxed{3}5 \\ \underline{- 35} \\ 0\boxed{5} \\ \underline{- 05} \\ 0 \end{array}$$

$$\begin{array}{r} \$\boxed{1}.\boxed{0}\boxed{7} \\ 2. 4 \overline{) \$4.28} \\ \underline{- 4} \\ \boxed{0}2 \\ \underline{- 0} \\ 2\boxed{8} \\ \underline{- 28} \\ 0 \end{array}$$

$$\begin{array}{r} \$\boxed{1}.\boxed{6}\boxed{2} \\ 3. 5 \overline{) \$8.10} \\ \underline{- 5} \\ \boxed{3}1 \\ \underline{- 30} \\ 1\boxed{0} \\ \underline{- 10} \\ 0 \end{array}$$

$$\begin{array}{r} \$\boxed{1}.\boxed{8}\boxed{7} \\ 4. 3 \overline{) \$5.61} \\ \underline{- 3} \\ 2\boxed{6} \\ \underline{- 24} \\ 2\boxed{1} \\ \underline{- 21} \\ 0 \end{array}$$

$$\begin{array}{r} \$0.\boxed{7}\boxed{7} \\ 5. 2 \overline{) \$1.54} \\ \underline{- 14} \\ 1\boxed{4} \\ \underline{- 14} \\ 0 \end{array}$$

$$\begin{array}{r} \$\boxed{3}.\boxed{0}\boxed{3} \\ 6. 3 \overline{) \$9.09} \\ \underline{- 9} \\ 0\boxed{09} \\ \underline{- 09} \\ 0 \end{array}$$

$$\begin{array}{r} \$\boxed{0}.\boxed{9}\boxed{4} \\ 7. 5 \overline{) \$4.70} \\ \underline{- 45} \\ 2\boxed{0} \\ \underline{- 20} \\ 0 \end{array}$$

$$\begin{array}{r} \$\boxed{2}.\boxed{0}\boxed{4} \\ 8. 3 \overline{) \$6.12} \\ \underline{- 6} \\ 0\boxed{1} \\ \underline{- 0} \\ 1\boxed{2} \\ \underline{- 12} \\ 0 \end{array}$$

$$\begin{array}{r} \$\boxed{4}.\boxed{2}\boxed{8} \\ 9. 2 \overline{) \$8.56} \\ \underline{- 8} \\ 0\boxed{5} \\ \underline{- 4} \\ 1\boxed{6} \\ \underline{- 16} \\ 0 \end{array}$$

$$\begin{array}{r} \$\boxed{0}.\boxed{9}\boxed{7} \\ 10. 5 \overline{) \$4.85} \\ \underline{- 45} \\ 3\boxed{5} \\ \underline{- 35} \\ 0 \end{array}$$

$$\begin{array}{r} \$\boxed{2}.\boxed{1}\boxed{2} \\ 11. 4 \overline{) \$8.48} \\ \underline{- 8} \\ 0\boxed{4} \\ \underline{- 4} \\ 0\boxed{8} \\ \underline{- 08} \\ 0 \end{array}$$

$$\begin{array}{r} \$\boxed{1}.\boxed{0}\boxed{4} \\ 12. 8 \overline{) \$8.32} \\ \underline{- 8} \\ 0\boxed{3} \\ \underline{- 0} \\ 3\boxed{2} \\ \underline{- 32} \\ 0 \end{array}$$

Name _____

Dividing Money Amounts

Divide and check.

1. $2 \overline{) \$6.82}$

2. $5 \overline{) \$8.95}$

3. $4 \overline{) \$9.24}$

4. $8 \overline{) \$0.64}$

5. $7 \overline{) \$4.41}$

6. $3 \overline{) \$6.45}$

7. $6 \overline{) \$6.90}$

8. $5 \overline{) \$3.65}$

9. $2 \overline{) \$4.64}$

10. $9 \overline{) \$7.11}$

11. $4 \overline{) \$6.16}$

12. $7 \overline{) \$9.38}$

13. $4 \overline{) \$6.52}$

14. $3 \overline{) \$9.93}$

15. $6 \overline{) \$3.78}$

16. $2 \overline{) \$1.54}$

17. Find the quotient of \$7.50 divided by 5. _____

18. Find the quotient of \$1.64 divided by 2. _____

19. Find the quotient of \$9.42 divided by 3. _____

20. How is $\$1.77 \div 3$ similar to $177 \div 3$?

Answer Key

Dividing Money Amounts

Divide and check.

1. $2 \overline{) \$6.82}$ **\$3.41**

2. $5 \overline{) \$8.95}$ **\$1.79**

3. $4 \overline{) \$9.24}$ **\$2.31**

4. $8 \overline{) \$0.64}$ **\$0.08**

5. $7 \overline{) \$4.41}$ **\$0.63**

6. $3 \overline{) \$6.45}$ **\$2.15**

7. $6 \overline{) \$6.90}$ **\$1.15**

8. $5 \overline{) \$3.65}$ **\$0.73**

9. $2 \overline{) \$4.64}$ **\$2.32**

10. $9 \overline{) \$7.11}$ **\$0.79**

11. $4 \overline{) \$6.16}$ **\$1.54**

12. $7 \overline{) \$9.38}$ **\$1.34**

13. $4 \overline{) \$6.52}$ **\$1.63**

14. $3 \overline{) \$9.93}$ **\$3.31**

15. $6 \overline{) \$3.78}$ **\$0.63**

16. $2 \overline{) \$1.54}$ **\$0.77**

17. Find the quotient of \$7.50 divided by 5. **\$1.50**

18. Find the quotient of \$1.64 divided by 2. **\$0.82**

19. Find the quotient of \$9.42 divided by 3. **\$3.14**

20. How is $\$1.77 \div 3$ similar to $177 \div 3$?

Possible answer: You divide the same way, but you need to show the decimal point, dollar and cents in the first problem.

Name _____

Finding Averages

Find the average, or mean, of each group of numbers.

1. 3, 9, 3, 3, 2

2. 10, 14, 19, 9

3. 226, 148, 319

4. 18, 30, 24

5. 26, 27, 20, 19, 23

6. 159, 252, 287, 46

The table at the right shows the number of books each student read each month for 5 months.

7. Which student read the greatest average number of books?

8. Which two students read the same average number of books?

9. **Math Reasoning** One student ate 4 doughnuts, one ate 9, and one ate 11. Explain why the average number of doughnuts eaten is not an actual number of doughnuts eaten.

Books Read Per Month	
Josie	11, 13, 6, 8, 12
Allen	9, 8, 10, 7, 6
Suzanne	21, 19, 16, 18, 11
Gina	19, 16, 5, 8, 12
Ricky	11, 11, 11, 9, 18

Test Prep Circle the correct letter for each answer.

10. Which two sets of numbers have the same average?

A 4, 8, 10, 2 and 6, 5, 6, 10

C 10, 17, 3 and 12, 14, 4

B 13, 16, 9, 14 and 10, 12, 14, 8

D 5, 14, 11 and 6, 1, 13

11. School T-shirts come in four different patterns. The costs for each pattern are \$6.00, \$8.00, \$10.00, and \$12.00. What is the average cost of a school T-shirt?

F \$8.00

G \$9.00

H \$10.00

J \$11.00

Answer Key

Finding Averages

Find the average, or mean, of each group of numbers.

1. 3, 9, 3, 3, 2

4

2. 10, 14, 19, 9

13

3. 226, 148, 319

231

4. 18, 30, 24

24

5. 26, 27, 20, 19, 23

23

6. 159, 252, 287, 46

186

The table at the right shows the number of books each student read each month for 5 months.

7. Which student read the greatest average number of books?

Suzanne; 17 books

8. Which two students read the same average number of books?

Gina and Ricky; 12 books

9. **Math Reasoning** One student ate 4 doughnuts, one ate 9, and one ate 11. Explain why the average number of doughnuts eaten is not an actual number of doughnuts eaten.

The average gives you a rough idea, not an exact number.

Books Read Per Month	
Josie	11, 13, 6, 8, 12
Allen	9, 8, 10, 7, 6
Suzanne	21, 19, 16, 18, 11
Gina	19, 16, 5, 8, 12
Ricky	11, 11, 11, 9, 18

Test Prep Circle the correct letter for each answer.

10. Which two sets of numbers have the same average?

A 4, 8, 10, 2 and 6, 5, 6, 10

C 10, 17, 3 and 12, 14, 4

B 13, 16, 9, 14 and 10, 12, 14, 8

D 5, 14, 11 and 6, 1, 13

11. School T-shirts come in four different patterns. The costs for each pattern are \$6.00, \$8.00, \$10.00, and \$12.00. What is the average cost of a school T-shirt?

F \$8.00

G \$9.00

H \$10.00

J \$11.00

Name _____

Exploring Divisibility

You can use rules to find out if numbers are divisible by 3, 6, or 9.

1. A number is divisible by 6 if it is divisible by both _____ and _____.
2. A number is divisible by 9 if the sum of its digits is divisible by _____.
3. A number is divisible by 3 if the sum of its digits is divisible by _____.
4. Find out if 261 is divisible by 3, 6, or 9.

a. Is 261 divisible by 3? How do you know?

b. Is 261 divisible by 6? How do you know?

c. Is 261 divisible by 9? How do you know?

5. Write a 3-digit number that is divisible by 2, 3, and 6.

Complete. Test each number to see if it is divisible by 2, 3, 5, 6, 9, or 10. If it is, write the quotient.

	40	63	600	324	114
By 2?					
By 3?					
By 5?					
By 6?					
By 9?					
By 10?					

Answer Key

Exploring Divisibility

You can use rules to find out if numbers are divisible by 3, 6, or 9.

1. A number is divisible by 6 if it is divisible by both 2 and 3.
2. A number is divisible by 9 if the sum of its digits is divisible by 9.
3. A number is divisible by 3 if the sum of its digits is divisible by 3.
4. Find out if 261 is divisible by 3, 6, or 9.

a. Is 261 divisible by 3? How do you know?

Yes, because $2 + 6 + 1 = 9$, and 9 is divisible by 3.

b. Is 261 divisible by 6? How do you know?

No. Even though it is divisible by 3, it is not an even number and is not divisible by 2.

c. Is 261 divisible by 9? How do you know?

Yes, because $2 + 6 + 1 = 9$, and 9 is divisible by 9.

5. Write a 3-digit number that is divisible by 2, 3, and 6.

Possible answer: 342

Complete. Test each number to see if it is divisible by 2, 3, 5, 6, 9, or 10. If it is, write the quotient.

	40	63	600	324	114
By 2?	20		300	162	57
By 3?		21	200	108	
By 5?	8				
By 6?			100	54	
By 9?		7		36	
By 10?	4		60		