Name _____ Date _____ Class _____

Circle the letter of the correct answer.

1. Which multiplication expression should you think of to solve $-15 \div 3$?

A $3 \cdot (-15)$

B $-15 \cdot 3$

C $5 \cdot (-3)$

D $3 \cdot -5$

2. Which multiplication expression should you think of to solve $-16 \div (-2)$?

F $2 \cdot (-8)$

G $(-2) \cdot 8$

H $-8 \cdot (-2)$

J $16 \cdot 2$

3. Which multiplication expression should you think of to solve $-21 \div (-7)$?

A $21 \cdot 7$

B $-21 \cdot (-7)$

C $-3 \cdot (-7)$

D $-7 \cdot 3$

4. Which multiplication expression should you think of to solve $24 \div (-4)$?

F $4 \cdot 6$

G $-4 \cdot -6$

H $24 \cdot 4$

J $24 \cdot (-4)$

5. Which of the following has a negative quotient?

A $-36 \div 6$

B $-42 \div (-7)$

C $63 \div 9$

D $-54 \div (-6)$

6. Which of the following has a positive quotient?

F $24 \div (-8)$

G $-32 \div 8$

H $-9 \div (-81)$

J $17 \div (-1)$

Match each division expression to its quotient below.

A. -4 **B.** 2 **C.** -3 **D.** -2 **E.** 3 **F.** 4

7. $-14 \div 7$ _____

8. $6 \div (-2)$ _____

9. $-18 \div (-6)$ _____

10. $32 \div (-8)$ _____

11. $-28 \div (-7)$ _____

12. $20 \div 10$ _____

13. The temperature dropped 14°F in 2 days. Write a division expression to model the average number of degrees the temperature dropped each day.

_____

14. Sue withdrew a total of $45 in three equal amounts from her bank. Write a division expression to model how much she withdrew each time.

_____

Holt Mathematics

Practice A

Dividing Integers

Circle the letter of the correct answer.

1. Which multiplication expression should you think of to solve $-15 \div 3$?
  A $3 \cdot (-15)$
  B $-15 \cdot 3$
  C $5 \cdot (-3)$
  (D) $3 \cdot -5$

2. Which multiplication expression should you think of to solve $-16 \div (-2)$?
  F $2 \cdot (-8)$
  (G) $(-2) \cdot 8$
  H $-8 \cdot (-2)$
  J $16 \cdot 2$

3. Which multiplication expression should you think of to solve $-21 \div (-7)$?
  A $21 \cdot 7$
  B $-21 \cdot (-7)$
  C $-3 \cdot (-7)$
  (D) $-7 \cdot 3$

4. Which multiplication expression should you think of to solve $24 \div (-4)$?
  F $4 \cdot 6$
  (G) $-4 \cdot -6$
  H $24 \cdot 4$
  J $24 \cdot (-4)$

5. Which of the following has a negative quotient?
  (A) $-36 \div 6$
  B $-42 \div (-7)$
  C $63 \div 9$
  D $-54 \div (-6)$

6. Which of the following has a positive quotient?
  F $24 \div (-8)$
  G $-32 \div 8$
  (H) $-9 \div (-81)$
  J $17 \div (-1)$

Match each division expression to its quotient below.

  A. -4 **B.** 2 **C.** -3 **D.** -2 **E.** 3 **F.** 4

7. $-14 \div 7$ ___D___
8. $6 \div (-2)$ ___C___
9. $-18 \div (-6)$ ___E___

10. $32 \div (-8)$ ___A___
11. $-28 \div (-7)$ ___F___
12. $20 \div 10$ ___B___

13. The temperature dropped 14°F in 2 days. Write a division expression to model the average number of degrees the temperature dropped each day.

$-14 \div 2$

14. Sue withdrew a total of $45 in three equal amounts from her bank. Write a division expression to model how much she withdrew each time.

$-45 \div 3$

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Practice B

Dividing Integers

Write the sign of each quotient.

1. $56 \div 8$
  positive

2. $-45 \div (-9)$
  positive

3. $36 \div (-12)$
  negative

4. $54 \div (-6)$
  negative

5. $-84 \div 7$
  negative

6. $-225 \div (-15)$
  positive

Find each quotient.

7. $-45 \div 9$ __-5__
8. $15 \div (-3)$ __-5__
9. $-56 \div 8$ __-7__

10. $-10 \div (-5)$ __2__
11. $28 \div (-7)$ __-4__
12. $-36 \div (-6)$ __6__

13. $81 \div 9$ __9__
14. $-72 \div 9$ __-8__
15. $-121 \div (-11)$ __11__

Evaluate $\frac{n}{-3}$ for each value of n.

16. $n = 6$ __-2__
17. $n = -18$ __6__
18. $n = -24$ __8__

19. $n = -36$ __12__
20. $n = 30$ __-10__
21. $n = -21$ __7__

Evaluate $n \div 2$ for each value of n.

22. $n = -14$ __-7__
23. $n = 20$ __10__
24. $n = -24$ __-12__

25. $n = 8$ __4__
26. $n = -18$ __-9__
27. $n = -22$ __-11__

28. What two division equations can you use to check the answer to the problem $6 \cdot (-4) = -24$?

$-24 \div 6 = -4$ or
$-24 \div (-4) = 6$

29. Why are the rules for dividing integers similar to the rules for multiplying integers?

because division is the inverse of multiplication

30. What two multiplication equations can you use to check the answer to the problem $-32 \div 8 = -4$?

$8 \cdot (-4) = -32$ or
$(-4) \cdot 8 = -32$

31. Name two integers whose product is -18 and whose quotient is -2.

6 and -3 or -6 and 3

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Practice C

Dividing Integers

Use each set of integers to write two expressions, one with a positive quotient and one with a negative quotient. Possible answers are given.

1. $-24, -6, 3$
  $-24 \div (-6)$
  $-24 \div 3$

2. $40, -4, 5$
  $40 \div 5$
  $40 \div (-4)$

3. $-1, -9, 18$
  $-9 \div (-1)$
  $18 \div (-1)$

Find each quotient.

4. $64 \div (-8)$ __-8__
5. $-81 \div 3$ __-27__
6. $-100 \div (-4)$ __25__

7. $-75 \div (-5)$ __15__
8. $128 \div (-4)$ __-32__
9. $-180 \div (-10)$ __18__

10. $161 \div (-7)$ __-23__
11. $124 \div (-4)$ __-31__
12. $238 \div (-2)$ __-119__

Evaluate $n \div (-12)$ for each value of n.

13. $n = 12$ __-1__
14. $n = -48$ __4__
15. $n = 36$ __-3__

16. $n = -24$ __2__
17. $n = 60$ __-5__
18. $n = -144$ __12__

Evaluate each expression for the given value of the variable.

19. $w \div (-7)$, $w = 49$
  -7

20. $v \div 11$, $v = -121$
  -11

21. $n \div 3$, $n = -48$
  -16

22. $-95 \div m$, $m = -5$
  19

23. $z \div 8$, $z = -96$
  -12

24. $c \div -9$, $c = -180$
  20

25. On four different days in February, the temperatures were 12°F above zero, 3°F below zero, 5°F above zero, and 2°F below zero. What was the mean temperature for those four days?

3°F above zero

26. During March, Toy World reported a loss of $486. That was three times the amount of money the company lost the previous month. How much money did Toy World lose in February?
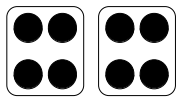
$162

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Reteach

Dividing Integers

You can use two-color counters to divide integers.

$+1$ -1

Divide -8 by 2.

First, think about the numerical expression in words.

$-8 \div 2$ means "-8 divided into 2 equal groups."

Then use counters to represent the expression.

There are 4 negative counters in each group.

$-8 \div 2 = -4$

Use counters to find each quotient.

1. $-15 \div 3$
  -5

2. $-12 \div 2$
  -6

3. $9 \div 3$
  3

4. $16 \div 4$
  4

5. $-11 \div 1$
  -11

6. $-6 \div 3$
  -2

7. $-20 \div 4$
  -5

8. $21 \div 3$
  7

9. $-14 \div 7$
  -2

10. $-7 \div 7$
  -1

11. $-18 \div 3$
  -6

12. $12 \div 4$
  3

13. $4 \div 2$
  2

14. $-18 \div 9$
  -2

15. $-5 \div 5$
  -1

16. $-20 \div 5$
  -4

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