



SKILL 6: Multiplication of Integers

Study the patterns below for multiplying integers.

(Note that the raised dot can be used instead of \times to show multiplication.)

$$3 \cdot 2 = 6$$

$$3 \cdot 1 = 3$$

$$3 \cdot 0 = 0$$

$$3 \cdot (-1) = -3$$

$$3 \cdot (-2) = -6$$

$$-4 \cdot 2 = -8$$

$$-4 \cdot 1 = -4$$

$$-4 \cdot 0 = 0$$

$$-4 \cdot (-1) = 4$$

$$-4 \cdot (-2) = 8$$

Note that a positive integer multiplied by a positive integer is positive; a positive integer multiplied by a negative integer is negative.

Note that a negative integer multiplied by a positive integer is negative; a negative integer multiplied by a negative integer is positive.

The product of two numbers with the same sign is positive.

The product of two numbers with different signs is negative.

The product of 0 and any number is 0.

Example

Multiply.

- | | |
|-------------------------|--|
| a. $-3 \cdot (-6) = 18$ | Both integers are negative, so the product is positive. |
| b. $-5 \cdot 7 = -35$ | The integers have different signs, so the product is negative. |
| c. $8 \cdot (-4) = -32$ | The integers have different signs, so the product is negative. |
| d. $0 \cdot (-9) = 0$ | One of the integers is 0, so the product is zero. |

Guided Practice

Tell whether the product is positive, negative, or 0. Then multiply.

1. $2 \cdot (7)$

The integers have the same sign.

The product is _____.

So, $2 \cdot (7) =$ _____.

2. $5 \cdot (-6)$

The integers have different signs.

The product is _____.

So, $5 \cdot (-6) =$ _____.

3. $-21 \cdot 0$

The second integer is 0.

The product is _____.

So, $-21 \cdot 0 =$ _____.

4. $(-10) \cdot (-7)$

The integers have the same sign.

The product is _____.

So, $(-10) \cdot (-7) =$ _____.

SKILL 6: Practice

Tell whether the product is positive, negative, or 0. Then multiply.

1. $-2 \cdot 10$

$$\underline{\hspace{2cm}}$$
$$-2 \cdot 10 = \underline{\hspace{2cm}}$$

2. $-8 \cdot (-9)$

$$\underline{\hspace{2cm}}$$
$$-8 \cdot (-9) = \underline{\hspace{2cm}}$$

3. $7 \cdot 15$

$$\underline{\hspace{2cm}}$$
$$7 \cdot 15 = \underline{\hspace{2cm}}$$

4. $0 \cdot (-23)$

$$\underline{\hspace{2cm}}$$
$$0 \cdot (-23) = \underline{\hspace{2cm}}$$

5. $-42 \cdot 3$

$$\underline{\hspace{2cm}}$$
$$-42 \cdot 3 = \underline{\hspace{2cm}}$$

6. $-12 \cdot (-15)$

$$\underline{\hspace{2cm}}$$
$$-12 \cdot (-15) = \underline{\hspace{2cm}}$$

Multiply.

7. $-2 \cdot 4 = \underline{\hspace{2cm}}$

8. $-5 \cdot 6 = \underline{\hspace{2cm}}$

9. $4 \cdot (-5) = \underline{\hspace{2cm}}$

10. $-1 \cdot (-13) = \underline{\hspace{2cm}}$

11. $2 \cdot (-8) = \underline{\hspace{2cm}}$

12. $5 \cdot 19 = \underline{\hspace{2cm}}$

13. $-3 \cdot (-6) = \underline{\hspace{2cm}}$

14. $7 \cdot (-4) = \underline{\hspace{2cm}}$

15. $-8 \cdot 11 = \underline{\hspace{2cm}}$

16. $-6 \cdot 20 = \underline{\hspace{2cm}}$

17. $-3 \cdot (-12) = \underline{\hspace{2cm}}$

18. $-4 \cdot 5 = \underline{\hspace{2cm}}$

19. $-7 \cdot 7 = \underline{\hspace{2cm}}$

20. $6 \cdot (-10) = \underline{\hspace{2cm}}$

21. $-8 \cdot (-15) = \underline{\hspace{2cm}}$

22. $-20 \cdot (-5) = \underline{\hspace{2cm}}$

23. $8 \cdot (-30) = \underline{\hspace{2cm}}$

24. $-20 \cdot 20 = \underline{\hspace{2cm}}$

25. $-7 \cdot (-13) = \underline{\hspace{2cm}}$

26. $14 \cdot (-5) = \underline{\hspace{2cm}}$

27. $25 \cdot 3 = \underline{\hspace{2cm}}$

28. $9 \cdot (-30) = \underline{\hspace{2cm}}$

29. $-20 \cdot (-30) = \underline{\hspace{2cm}}$

30. $0 \cdot (-16) = \underline{\hspace{2cm}}$

Solve.

31. There was a temperature change of -2°F each hour over a period of 5 hours. In all, what was the temperature change over the 5-hour period? _____

32. The price of a share of stock increased \$3 each week over a 7-week period. What was the total change in the price of a share of the stock over this period of time? _____

TEST PREP

33. Find $-5 \cdot 3$.

A -15

C 2

B -2

D 15

Skill 6

34. Find $-8 + 20$.

F -28

H 12

G -12

J 28

Skill 4