

Ma 8 Multiplication of Integers Notes

3 4

3 4

3 4 All of these are different ways of _____.

3 4

3 4

3 4

Two Brackets, side by side, tell you to _____!!!!

These questions say to :

-3 -4

-3 -4

$(-3)(-4)$

$-3(-4)$

-3 - 4

3 - 4

3 + (-4)

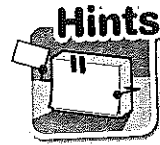
A _____ times a _____ = a _____

An _____ number of negatives multiplied together give a _____

An _____ number of negatives multiplied together give a _____

Multiply or divide.

- 13 $(+5) \times (+6) = \underline{\hspace{2cm}}$ 14 $(-4) \times (-5) = \underline{\hspace{2cm}}$
 15 $(-15) \div (+5) = \underline{\hspace{2cm}}$ 16 $(-20) \div (-2) = \underline{\hspace{2cm}}$
 17 $(+18) \div (-3) = \underline{\hspace{2cm}}$ 18 $(-6) \times (+2) = \underline{\hspace{2cm}}$
 19 $(+3) \times (-4) = \underline{\hspace{2cm}}$ 20 $(-10) \div (-5) = \underline{\hspace{2cm}}$
 21 $(+7) \times (+4) = \underline{\hspace{2cm}}$ 22 $(-16) \div (-4) = \underline{\hspace{2cm}}$
 23 $(+21) \div (-3) = \underline{\hspace{2cm}}$ 24 $(-6) \times (+6) = \underline{\hspace{2cm}}$
 25 $(+7) \times (+3) = \underline{\hspace{2cm}}$ 26 $(+24) \div (+8) = \underline{\hspace{2cm}}$
 27 $(-12) \div (+4) = \underline{\hspace{2cm}}$ 28 $(-5) \times (-7) = \underline{\hspace{2cm}}$
 29 $(-11) \times (+3) = \underline{\hspace{2cm}}$ 30 $(-20) \div (-5) = \underline{\hspace{2cm}}$
 31 $(-6) \times (-5) = \underline{\hspace{2cm}}$ 32 $(+30) \div (-6) = \underline{\hspace{2cm}}$



Multiplying or Dividing Integers

- with the same sign
→ the answer is positive
- with different signs
→ the answer is negative

$(+) \times (+) = (+)$	$(+3) \times (+2) = 6$
$(+) \times (-) = (-)$	$(+3) \times (-2) = -6$
$(-) \times (+) = (-)$	$(-3) \times (+2) = -6$
$(-) \times (-) = (+)$	$(-3) \times (-2) = 6$

$(+) \div (+) = (+)$	$(+6) \div (+2) = 3$
$(+) \div (-) = (-)$	$(+6) \div (-2) = -3$
$(-) \div (+) = (-)$	$(-6) \div (+2) = -3$
$(-) \div (-) = (+)$	$(-6) \div (-2) = 3$

Add signs to complete the number sentences in two ways.

- 33 $(\quad 3) \times (\quad 5) = -15$ 34 $(\quad 20) \div (\quad 4) = +5$
 $(\quad 3) \times (\quad 5) = -15$ $(\quad 20) \div (\quad 4) = +5$
 35 $(\quad 21) \div (\quad 7) = -3$ 36 $(\quad 4) \times (\quad 6) = +24$
 $(\quad 21) \div (\quad 7) = -3$ $(\quad 4) \times (\quad 6) = +24$
 37 $(+5) (\quad 7) = +12$ 38 $(-2) (\quad 8) = +6$
 $(+5) (\quad 7) = +12$ $(-2) (\quad 8) = +6$
 39 $(\quad 9) \times (\quad 2) = -18$ 40 $(\quad 7) \times (\quad 4) = +28$
 $(\quad 9) \times (\quad 2) = -18$ $(\quad 7) \times (\quad 4) = +28$

$(-3)(-2)$

$(-5)(6)$

$(7)(-8)$

$(4)(6)$

$(-1)(-12)$

$(-2)(0)$

$(-6)(-8)$

$9(-7)$

$(-8)(-9)$

$5(-2)(-6)$

$(4)(-3)(3)$

$(-2)(-2)(-2)$

$-4(4)(-1)$

$-9(-8)(-1)$

$3(7)(-2)$

$-6(-2)3$

$5(-5)(-5)$

$(-1)(-1)(-1)$

$5(4)(3)(-2)$

$5(-4)(-3)(-2)$

$-5(-4)(-3)(-2)$

$2(-10)(2)(-10)$

$3(-1)(-1)(-1)$

$-2(-2)(-2)(-2)$

$5(2)(-3)(-2)$

$-3(-2)(4)(-5)$

$3(-3)(3)(-3)$

$18 \div 3$ is the same as

$$\frac{-1}{2} = \frac{1}{-2} = -\frac{1}{2} = -\frac{-1}{-2} \neq \frac{-1}{-2}$$

$$\begin{array}{cccccc} + & - & + & - & - & + \\ \hline + & - & - & + & - & - \end{array}$$

An _____ number of negatives in a division question gives a _____ answer.

An _____ number of negatives in a division question gives a _____ answer.

Just like with _____!

If the larger number (ignoring the signs) is on _____, the answer will be

_____ than 1. $\frac{24}{-12} =$ $\frac{-75}{-25} =$ $\frac{-26}{13} =$ $\frac{100}{10} =$

If the larger number (ignoring the signs) is on the _____, the answer will be

_____ than 1. $\frac{-12}{24} =$ $\frac{-25}{-75} =$ $\frac{13}{-26} =$ $\frac{10}{100} =$

TO DIVIDE, REDUCE THE FRACTION

$$\frac{36}{-9} = \quad \frac{-27}{3} = \quad \frac{-32}{4} = \quad \frac{32}{-4} = \quad \frac{-32}{4} = \quad \frac{-32}{-4} = \quad \frac{32}{4} =$$

$$\frac{-40}{-8} = \quad \frac{42}{7} = \quad \frac{42}{-7} = \quad \frac{48}{6} = \quad \frac{54}{-9} = \quad \frac{63}{-9} = \quad \frac{-49}{-7} =$$

$$\frac{-48}{12} = \quad \frac{-3}{12} = \quad \frac{-18}{-24} = \quad \frac{-25}{30} = \quad \frac{-27}{45} = \quad \frac{-30}{-42} = \quad \frac{-12}{-60} =$$

Ma 8

MULTIPLICATION & DIVISION OF INTEGERS

1) $(-3)(2)(3)(-1)(-1) =$

2) $(5)(2)(0)(-3) =$

3) $(-3)(-3)(-3)(2) =$

4) $(2)(3)(-4)(-2)(-3) =$

5) $(-2)(-5)(-3)(-3) =$

6) $(2)(-2)(2)(-2)(-2)(2) =$

7) $(2)(4)(-5)(-1)(2)(-1) =$

8) $(-1)(-1)(-1)(-1)(-1)(-1)(7) =$

9) $(6)(-3)(-1)(-2) =$

10) $(-2)(7)(-2)(-1)(2) =$

11) $\frac{36}{-9} =$

12) $\frac{-36}{9} =$

13) $\frac{-36}{-9} =$

14) $\frac{-27}{3} =$

15) $\frac{32}{-4} =$

16) $\frac{-32}{4} =$

17) $\frac{-32}{-4} =$

18) $\frac{32}{4} =$

19) $\frac{32}{4} =$

20) $\frac{42}{7} =$

21) $\frac{42}{-7} =$

22) $\frac{-42}{-7} =$

23) $\frac{48}{6} =$

24) $\frac{54}{-9} =$

25) $-\left(\frac{-54}{-9}\right) =$

26) $\frac{-63}{9} =$

27) $-\left(\frac{63}{9}\right) =$

28) $\frac{49}{7} =$

29) $\frac{48}{-12} =$

30) $\frac{-48}{-12} =$

31) $-\left(\frac{-48}{+12}\right) =$

32) $\frac{-3}{12} =$

33) $\frac{-18}{-36} =$

34) $\frac{25}{75} =$

35) $\frac{12}{40} =$

36) $\frac{-12}{60} =$

37) $\frac{-12}{-60} =$

$$38) \frac{-18}{24} =$$

$$39) \frac{18}{-24} =$$

$$40) \frac{-18}{-24} =$$

$$41) \frac{25}{30} =$$

$$42) - \left(\frac{25}{-30} \right) =$$

$$43) \frac{-30}{-42} =$$

$$44) \frac{14}{-49} =$$

$$45) \frac{-18}{48} =$$

$$46) \frac{-30}{100} =$$

$$47) \frac{-360}{-600} =$$

$$48) - \left(\frac{-420}{490} \right) =$$

$$49) \frac{560}{700} =$$

$$50) \frac{444}{888} =$$

$$51) - \left(\frac{-96}{288} \right) =$$

$$52) \frac{81}{-405} =$$