Names (pair) _____ Date _____

Dividing Integers

Example

Division is the inverse of multiplication. One product gives two divisions:

$(-4) \times 3 = -12 \rightarrow (-12) \div 3 = -4$ and $(-12) \div (-4) = 3$

So we do not need to learn new sign rules for division: they are the same as for multiplication.

1 IN PAIRS From each product, write two divisions.

$(-5) \times 6 = -30$ $7 \times (-8) = -56$

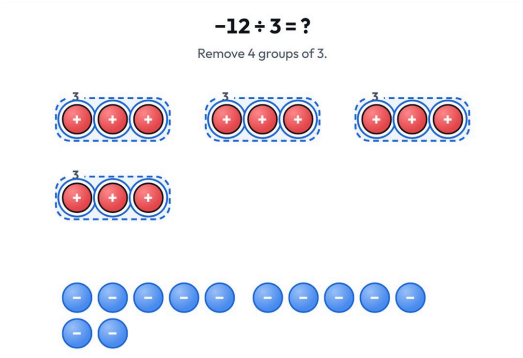
$(-9) \times (-4) = 36$ $(-10) \times 0 = 0$

For the last product: can we divide by zero? Why?

2 ON YOUR OWN Complete the table of signs for division.

dividend	divisor	quotient	example
+	+		
+	−		
−	+		
−	−		

3 IN PAIRS The Counters app divides $(-12) \div 3$ like this: starting from zero, it removes groups of 3 until it gets -12. How many groups did it remove? Why is the quotient negative?



groups removed: ☐

$(-12) \div 3 =$ ☐

Names (pair) _____ Date _____

Remember

The quotient is **positive** if the dividend and divisor have the same sign, and **negative** if their signs are different. $0 \div a = 0$, and **we cannot divide by zero**.

4 ON YOUR OWN Work out.

$(-42) \div 6 =$ ☐ $56 \div (-8) =$ ☐ $(-81) \div (-9) =$ ☐

$0 \div (-5) =$ ☐ $(-100) \div (-25) =$ ☐ $72 \div (-1) =$ ☐

5 ON YOUR OWN Write the missing number.

☐ $\times (-4) = 28$ $(-6) \times$ ☐ $= -54$

☐ $\div (-3) = 7$ $-40 \div$ ☐ $= 8$

6 IN PAIRS Write the calculation and solve.

a) The temperature fell by 12 °C in 4 hours, by the same amount each hour. What is the change per hour? ☐

b) A diver goes down 2 m every minute. After how many minutes will she be at -18 m?

☐

The Counters app · otooly.com/counters

Operations mode: enter -12, choose $\div$ and enter 3. Step through, then do the same for $(-12) \div (-3)$.

★ ON YOUR OWN **Exit card.** $(-48) \div (-6) =$ ☐ $35 \div (-7) =$ ☐