

Pre-algebra
Skill-BUILDER # I – 4
Dividing Integers

We have the following rules for integer division:

$(+) \div (+) = (+)$	positive $\div$ positive = positive
$(-) \div (-) = (-)$	negative $\div$ negative = positive
$(+) \div (-) = (-)$	positive $\div$ negative = negative
$(-) \div (+) = (-)$	negative $\div$ positive = negative

Examples

1) $-12 \div (-4) = 3$

2) $24 \div (-6) = -4$

3) $-81 \div 9 = -9$

4) $(-16) \div (-8) = 2$

The division rules can also be written as follows:

$\frac{(+)}{(+)} = (+)$	$\frac{\text{positive}}{\text{positive}} = \text{positive}$
$\frac{(-)}{(-)} = (+)$	$\frac{\text{negative}}{\text{negative}} = \text{positive}$
$\frac{(+)}{(-)} = (-)$	$\frac{\text{positive}}{\text{negative}} = \text{negative}$
$\frac{(-)}{(+)} = (-)$	$\frac{\text{negative}}{\text{positive}} = \text{negative}$

Examples

5) $\frac{-36}{6} = -6$

6) $\frac{32}{-8} = -4$

7) $\frac{-72}{-9} = 8$

8) $\frac{15}{-(-5)} = \frac{15}{5} = 3$

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Find the quotient.

1) $6 \div (-2)$

2) $-8 \div 2$

3) $-9 \div (-3)$

4) $-16 \div (-4)$

5) $(-54) \div (-6)$

6) $(-18) \div (-3)$

7) $-32 \div 16$

8) $36 \div (-4)$

9) $72 \div (-6)$

10) $-56 \div 8$

11) $\frac{-45}{5}$

12) $\frac{-48}{8}$

13) $\frac{-42}{-7}$

14) $\frac{-64}{-8}$

15) $\frac{36}{-9}$

16) $\frac{63}{-7}$

17) $\frac{-(-12)}{-6}$

18) $\frac{-49}{-(-7)}$

19) $\frac{-(-64)}{-(-16)}$

20) $\frac{-(-90)}{-(-15)}$

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Answer Key:

1) -3

2) -4

3) 3

4) 4

5) 9

6) 6

7) -2

8) -9

9) -12

10) -7

11) -9

12) -6

13) 6

14) 8

15) -4

16) -9

17) -2

18) -7

19) 4

20) 6