

1.4 Multiplying Integers

Multiplying Integers with the Same Sign

- The product of two integers with the same sign is positive.

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

Multiplying Integers with different signs

- The product of two integers with different signs is negative.

ex) $3 \cdot (-4) = -12$ $-7(4) = -28$

Try!

1) $5 \cdot 5 = 25$

2) $4(11) = 44$

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

4) $(-7) \cdot (-8) = 56$

5) $12 \cdot (-2) = -24$

6) $4(-6) = -24$

7) $-10(-6)(0) = 0$

8) $-7 \cdot (-5) \cdot (-4) = -140$

Using exponents

Evaluate

a) $(-2)^2 = (-2) \cdot (-2) = 4$

b) $-5^2 = -(5 \cdot 5) = -25$

c) $(-4)^3 = (-4) \cdot (-4) \cdot (-4)$

$16 \cdot (-4) = -64$

Try!

1) $(-3)^2 = 3 \cdot 3 = 9$

2) $(-2)^3 = -2 \cdot -2 \cdot -2 = 4 \cdot -2 = -8$

3) $-7^2 = -(7 \cdot 7) = -49$

4) $-6^3 = -(6 \cdot 6 \cdot 6) = -216$

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1.5 Dividing Integers

Dividing Integers with the same sign

• The quotient of two integers with the same sign is positive

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

• The quotient of two integers with different signs is negative

ex a) $75 \div (-25) = -3$ b) $-54 \div 6 = -9$

Try! 1) $14 \div 2 = 7$ 2) $-32 \div (-4) = 8$ 3) $-40 \div (-8) = 5$

4) $0 \div (-6) = 0$ 5) $\frac{-49}{7} = -7$ 6) $\frac{21}{-3} = -7$

Evaluating Expressions

$10 - x^2 \div y$ when $x = 8$ and $y = -4$

$10 - 8^2 \div (-4) \rightarrow 10 - (-16)$
 $10 - 64 \div (-4) \rightarrow 10 + 16 = 26$

$a = -18$

$b = -6$

1) $a \div b$

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

2) $\frac{a+b}{3}$

$\frac{-18 + (-6)}{3}$

$\frac{-24}{3} = -8$

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3) $\frac{b^2}{a} + 4$

~~$\frac{-18}{-18}$~~ $\frac{-6^2}{-18} + 4$

$\frac{-36}{-18} + 4$

$2 + 4 = 6$