

7th Grade
Oct 8, 2020

Please get out
your WS on
multiplying and
dividing integers.

Today we will:
-review Skills
Practice WS
-do a short partner
activity to
practice
operations with
integers
-work on THQ or
budget project



HOMEWORK:

THQ due TOMORROW
Oct 9

Budget project due
Wed, Oct 14

ALEKS-60 minutes



HOW DO I ADD INTEGERS WITH THE SAME SIGN?



Add their absolute values.
The sum is positive if both integers are positive.
The sum is negative if both integers are negative.
Examples: $3+4=7$ $-2+(-4)=-6$

HOW DO I ADD INTEGERS WITH DIFFERENT SIGNS?

Subtract their absolute values.
The sum is positive if the positive integer's absolute value is greater.
The sum is negative if the negative integer's absolute value is greater.
Examples: $7+(-11)=-4$ $-2+9=7$

HOW DO I SUBTRACT INTEGERS WITH THE SAME SIGN?



Add its opposite. Then follow the rules for adding.
Another way to say it is "same, change, change."
Example: $4-15=4+(-15)=-11$

HOW DO I SUBTRACT INTEGERS WITH DIFFERENT SIGNS?

Add its opposite. Then follow the rules for adding.
Two negatives next to each other make a positive!
 $18-(-2)=18+(+2)=20$
 $-5-11=-5-(+11)=-5+(-11)=-16$

HOW DO I MULTIPLY INTEGERS WITH THE SAME SIGN?



The product of two integers with the same sign is positive.
 $7(8)=56$ $-9(-8)=72$
Multiply by an even # of negatives \longrightarrow positive answer.

HOW DO I MULTIPLY INTEGERS WITH DIFFERENT SIGNS?

The product of two integers with different signs is negative.
 $7(-8)=-56$ $-9(8)=-72$
Multiply by an odd # of negatives \longrightarrow negative answer.

HOW DO I DIVIDE INTEGERS WITH THE SAME SIGN?



The quotient of two integers with the same sign is positive.
 $144 \div 12 = 12$
 $-72 \div -9 = 8$

HOW DO I DIVIDE INTEGERS WITH DIFFERENT SIGNS?

The quotient of two integers with different signs is negative.
 $90 \div (-10) = -9$
 $-120 \div 5 = -24$

Lesson 4 Skills Practice

Multiplying Integers

Find each product.

1. $-2(8)$

-16

2. $-4(-4)$

16

3. $6(-2)$

-12

4. $-7(-3)$

21

5. $-5(20)$

-100

6. $16(-2)$

-32

7. $18(-3)$

-54

8. $-5(-5)$

25

9. $8(6)(-2)$

-96

10. $-1(50)(-1)$

50
(-50(-1))

11. $6(0)(-2)$

0

12. $(-3)(-2)(-1)$

-6

13. $-4(5)(-3)$

60

14. $10(-3)(2)$

-60

15. $-9(8)(1)$

-72

16. $-1(-1)(-1)$

-1

Simplify each expression.

17. $-2 \cdot 3x$

$-6x$

18. $-4 \cdot 5y$

$-20y$

19. $9 \cdot (-2z)$

$-18z$

20. $-5 \cdot (-6a)$

$30a$

21. $(-3)(4)(-x)$

$12x$

22. $-3(5)(-y)$

$15y$

23. $(-6)(-2)(8r)$

$96r$

24. $-5(0)(-xy)$

0

Evaluate each expression if $x = -5$ and $y = -6$.

25. $3y$

-18

26. $-8x$

40

27. $-4y$

24

28. $12x$

-60

29. xy

30

30. $-xy$

-30

31. $-6xy$ *$-6 \cdot 30$*

-180

32. $4xy$ *$4 \cdot 30$*

120

Lesson 5 Skills Practice

Dividing Integers

Find each quotient.

1. $16 \div 4 = 4$

2. $-27 \div 3 = -9$

3. $25 \div (-5) = -5$

4. $63 \div (-9) = -7$

5. $\frac{-32}{4} \div -8 = -8$

6. $\frac{45}{9} = 5$

7. $\frac{-45}{3} = -15$

8. $\frac{-25}{-5} = 5$

9. $\frac{35}{-7} = -5$

10. $\frac{-63}{-7} = 9$

11. $\frac{-144}{12} = -12$

12. $\frac{48}{-6} = -8$

Evaluate each expression if $x = -8$ and $y = -12$.

13. $x \div 2 = -8 \div 2 = -4$

14. $x \div (-4) = -8 \div -4 = 2$

15. $36 \div y = 36 \div (-12) = -3$

16. $0 \div y = 0$

17. $\frac{x}{-2} = \frac{-8}{-2} = 4$

18. $\frac{y}{3} = \frac{-12}{3} = -4$

19. $\frac{0}{x} = \frac{0}{-8} = 0$

20. $\frac{-112}{x} = \frac{-112}{-8} = 14$

21. $\frac{y}{-6} = \frac{-12}{-6} = 2$

22. $\frac{x}{4} = \frac{-8}{4} = -2$

23. $\frac{-144}{y} = \frac{-144}{-12} = 12$

24. $\frac{-136}{x} = \frac{-136}{-8} = 17$

Find the average (mean) of each group of numbers.

25. $-10, -7, 7, 10$

$-10 + -7 + 7 + 10 = 0$
 $0 \div 4 = 0$

26. $12, 24, 9, 15, 18, 20, 16, 14$

$\frac{128}{8} = 16$

27. $-4, -11, -6, 1, 8, -12$

$-4 + -11 + -6 + 1 + 8 + -12 = -24$
 $-24 \div 6 = -4$

Partner activity: Complete your half-sheet. Read or wait quietly when finished. It should only take 3-5 minutes.

Find someone to be your partner (An A matched with a B) to compare answers.

Partner A	Partner A's Answer	Partner B's Answer	Partner B
1. When dividing two numbers with different signs, the quotient is _____			1. When multiplying two numbers with different signs, the product is _____
2. When multiplying two numbers with the same sign, the product is _____			2. When dividing two numbers with the same sign, the quotient is _____
3. $108 \div (-9) =$			3. $-4 \times 3 =$
4. $58 \times 3 =$			4. $522 \div 3 =$
5. $-125 \div (-5) =$			5. $-5 \times (-5) =$
6. $27 \times (-3) =$			6. $-729 \div 9 =$
7. $114 \div 6 =$			7. $9.5 \times 2 =$
8. $9 \times 9 =$			8. $-324 \div (-4) =$
9. $-138 \div (-3) =$			9. $2 \times 23 =$
10. $7 \times (-4) =$			10. $168 \div (-6) =$

