6th Grade

ACC Math

Week 2

Lesson 11-4& 11.5
Multiplying and Dividing Integers

Rules for Multiplying:

*Same sign = positive

*Different signs = negative

Rules for divide are the same as multiply.

*An odd number of negative signs = negative

*An even number of negative signs = positive

*Mean = average - add them all together and divide by the number of numbers. (Make sure you get your total BEFORE you divide!)

Examples

1) $-3(22)$ **= -66**

2) $-9(-12)$ **= 108**

3) $-72 \div 8$ **= -9**

4) $\frac{-125}{-5}$ **=25**

5) Find the mean

2, 3, -4, -5, 4, -6, -11, 1

Add opposites to make "zero pairs."
Add what is left and divide by 8 for 8 numbers

What is left is -6 + -11 + 1 = -17 + 1 = -16/8 = -2

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11.4 Practice

For use after Lesson 11.4

Multiply.

1. $8 \bullet 9$

2. $7(-7)$

3. $-10 \bullet 4$

4. $-5(-6)$

5. $12 \bullet (-1) \bullet (-2)$

12 x =

6. $-10(-3)(-7)$

x (-7) =

7. $-20 \bullet 0 \bullet (-4)$

8. $-4 \bullet 8 \bullet 3$

-4 x =

Evaluate the expression.

9. $(-8)^2$

This means =

=

10. -11^2

This means =

=

11. $9 \bullet (-5)^2$

9 x

=

12. $(-2)^3 \bullet (-6)$

x (-6)

=

13. You lose 5 points for every wrong answer in a trivia game. What integer represents the change in your points after answering 8 questions wrong?

Expression: =

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11.5 Practice

For use after Lesson 11.5

Divide, if possible.

1. $3 \div (-1)$

2. $8 \div 2$

3. $-10 \div 5$

4. $-21 \div (-7)$

5. $\frac{48}{-6}$

6. $\frac{-13}{-13}$

7. $\frac{0}{3}$

8. $\frac{-55}{11}$

Evaluate the expression. **Remember PEMDAS!**

9. $-63 \div (-7) + 6$

10. $-5 - 12 \div 3$

11. $-8 \bullet 7 + 33 \div (-11)$

12. The table shows the number of yards a football player runs in each quarter of a game. Find the mean number of yards the player runs per quarter.

Quarter	1	2	3	4
Yards	−2	14	−18	−6

= **Yards per quarter**

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11.4 Practice

For use after Lesson 11.4

Multiply.

1. $8 \cdot 9$

72

2. $7(-7)$

-49

3. $-10 \cdot 4$

-40

4. $-5(-6)$

30

5. $12 \cdot (-1) \cdot (-2)$

$-12 \cdot (-2)$

24

6. $-10(-3)(-7)$

$30(-7)$

-210

7. $-20 \cdot 0 \cdot (-4)$

$0 \cdot (-4)$

0

8. $-4 \cdot 8 \cdot 3$

$-32 \cdot 3$

-96

Evaluate the expression.

9. $(-8)^2$

$(-8)(-8)$

64

10. -11^2

$-11 \cdot 11$

-121

11. $9 \cdot (-5)^2$

$9 \cdot 25$

225

12. $(-2)^3 \cdot (-6)$

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

$-8 \cdot (-6)$

48

13. You lose 5 points for every wrong answer in a trivia game. What integer represents the change in your points after answering 8 questions wrong?

$-5 \cdot 8 = -40$ points

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11.5 Practice

For use after Lesson 11.5

Divide, if possible.

1. $3 \div (-1)$

-3

2. $8 \div 2$

4

3. $-10 \div 5$

-2

4. $-21 \div (-7)$

3

5. $\frac{48}{-6}$

-8

6. $\frac{-13}{-13}$

1

7. $\frac{0}{3}$

0

8. $\frac{-55}{11}$

-5

Evaluate the expression.

9. $-63 \div (-7) + 6$

9 + 6

15

10. $-5 - 12 \div 3$

-5 - 4

-5 + (-4)

-9

11. $-8 \cdot 7 + 33 \div (-11)$

-56 + (-3)

-59

12. The table shows the number of yards a football player runs in each quarter of a game. Find the mean number of yards the player runs per quarter.

Quarter	1	2	3	4
Yards	-2	14	-18	-6

Average. Add all then divide by how many numbers.

+ + +

= -12 ÷ 4 = -3 yards

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Chapter 13

Fair Game Review

Evaluate the expression when $x = \frac{1}{2}$ and $y = -3$.

1. $-4xy$

$-4\left(\frac{1}{2}\right)(-3)$

6

2. $6x - 3y$

$6\left(\frac{1}{2}\right) - 3(-3)$

$3 - (-9) = 3 + 9$

12

3. $-5y + 8x + 1$

$-5(-3) + 8\left(\frac{1}{2}\right) + 1$

$15 + 4 + 1$

20

4. $-x^2 - y + 2$

$-\left(\frac{1}{2}\right)^2 - (-3) + 2$

$-\frac{1}{2} \cdot \frac{1}{2} + 3 + 2$

$-\frac{1}{4} + 3 + 2 = 4\frac{3}{4}$

5. $2x + 4\left(x + \frac{1}{2}\right) + 7$

$2\left(\frac{1}{2}\right) + 4\left(\frac{1}{2} + \frac{1}{2}\right) + 7$

$1 + 4(1) + 7$

$1 + 4 + 7 = 12$

6. $2(4x - 1)^2 - 3$

$2\left(4 \cdot \frac{1}{2} - 1\right)^2 - 3$

$2(2 - 1)^2 - 3$

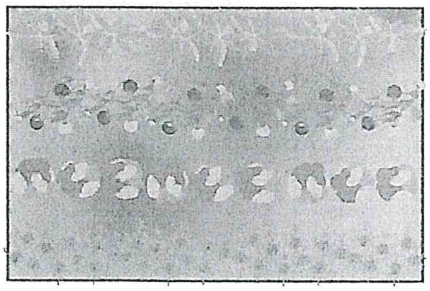
$2(1)^2 - 3$

$2(1) - 3$

$2 - 3 = -1$

7. Find the area of the garden when $x = 2$ feet.

Length * Width



$3x \cdot 2x$

$3(2) \cdot 2(2)$

$6 \cdot 4 = 24 \text{ ft}^2$

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Chapter 13 **Fair Game Review (continued)**

Write the phrase as an algebraic expression.

8. the sum of eight and a number y

$8 + y$

9. six less than a number p

$p - 6$

10. the product of seven and a number m

$7m$

11. eight less than the product of eleven and a number c

$11c - 8$

12. a number r deceased by the quotient of a number r and two

$r - \frac{r}{2}$

13. the product of nine and the sum of a number z and four

$9(z + 4)$

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Notes for pages **279-280**

- Evaluate the expression means find the answer.
- Touching means times
- PEMDAS - (), x^2, multiply or divide left to right, add or subtract left to right

Evaluate the expression when $x = \frac{1}{2}$ and $y = -2$

ex: $-6xy$

$-6\left(\frac{1}{2}\right)(-2)$

$-3(-2)$

6

ex: $-x^2 - y + 6$

$-\left(\frac{1}{2}\right)^2 - (-2) + 6$

$-\frac{1}{2} \times \frac{1}{2} - (-2) + 6$

$-\frac{1}{4} + 2 + 6$

$1\frac{3}{4} + 6 = 7\frac{3}{4}$

<u>Key words:</u>

Sum = add

less than = subtract (flip it)

decreased = subtract

product = times

quotient = divide

ex: five less than a number *b*

$b - 5$

Name_____ Date_____

Chapter 13 Fair Game Review

Evaluate the expression when $x = \frac{1}{2}$ and $y = -3$.

1. $-4xy$

2. $6x - 3y$

3. $-5y + 8x + 1$

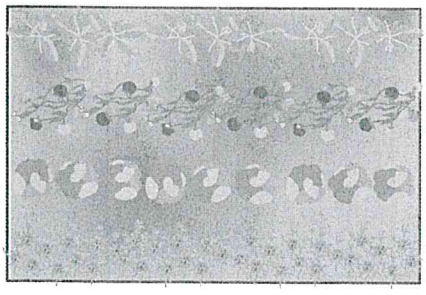
4. $-x^2 - y + 2$

5. $2x + 4\left(x + \frac{1}{2}\right) + 7$

6. $2(4x - 1)^2 - 3$

7. Find the area of the garden when $x = 2$ feet.

Remember
Area = bh or LW



= _____ **square feet**

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Chapter 13 Fair Game Review (continued)

Write the phrase as an algebraic expression.

8. the sum of eight and a number y

9. six less than a number p

10. the product of seven and a number m

11. eight less than the product of eleven and a number c

12. a number r deceased by the quotient of a number r and two

13. the product of nine and the sum of a number z and four

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