Practice 4-4

Greatest Common Factor

List the factors to find the GCF of each set of numbers.

1. 8, 12

2. 18, 27

3. 15, 23

4. 17, 34

5. 24, 12

6. 18, 24

7. 5, 25

8. 20, 25

Use a division ladder to find the GCF of each set of numbers.

9. 10, 15

10. 25, 75

11. 14, 21

12. 18, 57

13. 32, 24, 40

14. 25, 60, 75

15. 12, 35, 15

16. 15, 35, 20

Use factor trees to find the GCF of each set of numbers.

17. 28, 24

18. 27, 36

19. 15, 305

20. 57, 27

21. 24, 48

22. 56, 35

23. 75, 200

24. 90, 160

25. 72, 108

Solve.

26. The GCF of two numbers is 850. Neither number is divisible by the other. What is the smallest that these two numbers could be?

_____

27. The GCF of two numbers is 479. One number is even and the other number is odd. Neither number is divisible by the other. What is the smallest that these two numbers could be?

_____

Name _____ Class _____ Date _____

Reteaching 4-2

An *exponent* tells how many times a number is used as a factor.

$3 \times 3 \times 3 \times 3$ shows the number 3 is used as a factor 4 times.

$3 \times 3 \times 3 \times 3$ can be written 3^4.

In 3^4, 3 is the *base* and 4 is the exponent.

Read 3^4 as "three to the fourth power."

- To *simplify* a power, first write it as a product.

  $2^5 = 2 \times 2 \times 2 \times 2 \times 2 = 32$

- When you simplify expressions with exponents, do all operations inside parentheses first. Then simplify the powers.

  Example: $30 - (2 + 3)^2 = 30 - 5^2$
  $$= 30 - 25$$
  $$= 5$$

Name the base and the exponent.

1. 3^6

   base _____

   exponent _____

2. 6^2

   base _____

   exponent _____

3. 8^4

   base _____

   exponent _____

Write each expression using an exponent. Name the base and the exponent.

4. $9 \times 9 \times 9$

5. $6 \times 6 \times 6 \times 6$

6. $1 \times 1 \times 1 \times 1 \times 1$

Simplify each expression.

7. 6^2

8. 3^5

9. 10^4

10. $4^2 + 5^2$

11. $2 \times 6 - 2^3$

12. $6^2 + 4^2$

13. $5 + 5^2 - 2$

14. $24 \div 4 + 2^4$

15. $9 + (40 \div 2^3)$

16. $(4^2 + 4) \div 5$
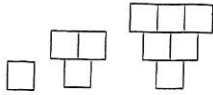
17. $10 \times (30 - 5^2)$
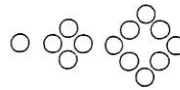
18. $\cdot 12 + 18 \div 3^2$

Practice 3-1

Sketch the next two designs in each pattern.

1.

2.

Write the next three terms in each pattern.

3. 3, 5, 7, 9, _____

4. 34, 31, 28, 25, _____

5. 2, 6, 18, 54, _____

6. 7, 8, 10, 13, _____

Write a rule for each number pattern, and then write the next three terms.

7. 4, 7, 10, 13, _?_ , _?_ , _?_

8. 2, 4, 8, 16, _?_ , _?_ , _?_

9. 19, 29, 39, 49, _?_ , _?_ , _?_

10. 8, 11, 14, 17, _?_ , _?_ , _?_

11. 135, 125, 115, 105, _?_ , _?_ , _?_

12. 5, 10, 20, 40, _?_ , _?_ , _?_

13. Make a number pattern that starts with the number 6. Write the rule for your pattern, and then write the first five terms.

Find the missing term.

14. 7, 21, 63, _?_ , 567

15. 33, 27, _?_ , 15, 9

16. _?_ , 20, 80, 320, 1280

Greatest common factor of 2 numbers (2-50)

Grade 6 Factoring Worksheet

Find the greatest common factor.

1. 15 _____
   5 _____   ___

2. 44 _____
   22 _____   ___

3. 35 _____
   20 _____   ___

4. 12 _____
   27 _____   ___

5. 12 _____
   44 _____   ___

6. 7 _____
   35 _____   ___

7. 39 _____
   9 _____   ___

8. 38 _____
   14 _____   ___

9. 22 _____
   11 _____   ___

10. 48 _____
    32 _____   ___

11. 35 _____
    21 _____   ___

12. 28 _____
    14 _____   ___

13. 30 _____
    35 _____   ___

14. 7 _____
    14 _____   ___

15. 14 _____
    42 _____   ___

16. 40 _____
    18 _____   ___

Five Minute Multiplying Frenzy (A)

Write the product of the column and row numbers in each space.

(Range 2 to 12)

×	10	6	11	2	8	12	7	3	4	9
5										
8										
9										
2										
11										
4										
12										
3										
10										
7										

Time : _____   /100

Greatest common factor of 2 numbers (2-50)

Grade 6 Factoring Worksheet

Find the greatest common factor.

1. 5 _____ ___
   30 _____

2. 24 _____ ___
   36 _____

3. 36 _____ ___
   42 _____

4. 39 _____ ___
   21 _____

5. 35 _____ ___
   45 _____

6. 7 _____ ___
   21 _____

7. 45 _____ ___
   30 _____

8. 36 _____ ___
   21 _____

9. 36 _____ ___

   18 _____ ___

10. 5 _____ ___
    10 _____

11. 2 _____ ___
    24 _____

12. 14 _____ ___
    10 _____

13. 20 _____ ___
    25 _____

14. 10 _____ ___
    5 _____

15. 18 _____ ___
    30 _____

16. 30 _____ ___
    28 _____

Factoring numbers between 4 and 50

Grade 4 Factoring Worksheet

Example: The factors of 18 are 1, 2, 3, 6, 9 and 18

List the factors for each number.

1.   28 _____

2.   9 _____

3.   4 _____

4.   33 _____

5.   6 _____

6.   7 _____

7.   5 _____

8.   17 _____

9.   12 _____

10. 26 _____

11. 19 _____

12. 46 _____

Prime Factors (A)

Use a tree diagram to find the prime factors of each number.

91   100   220

205   201   124

194   231   118

Skills Worksheet

Directed Reading B

Section: What Is Matter?

MATTER

Circle the letter of the best answer for each question.

1. What do humans, hot soup, and a neon sign have in common?

   a. They are brightly colored.

   b. They are found in space.

   c. They are made of matter.

   d. They have the same volume.

2. What has mass and takes up space?

   a. volume

   b. matter

   c. weight

   d. space

MATTER AND VOLUME

3. What does the word *volume* mean?

   a. the amount of matter

   b. an effect of gravity

   c. the amount of space

   d. an effect of mass

4. Why can't another CD fit in a rack once the rack is completely filled?

   a. because all the space is taken up

   b. because the CD has mass

   c. because space has three dimensions

   d. because the CD is too large

The Properties of Matter

| **Directed Reading B** *continued* |

Liquid Volume

5. What unit is used to measure the volume of water in a lake?

a. grams (g)

c. meters (m)

b. liters (L)

d. milliliters (mL)

6. What unit would you use to measure the volume of soda in a can?

a. centimeters (cm)

c. liters (L)

b. grams (g)

d. milliliters (mL)

Measuring the Volume of Liquids

Read the words in the box. Read the sentences. <u>Fill in each blank</u> with the word or phrase that best completes the sentence.

cubic	irregular solid	volume
meniscus	milliliter (mL)	cubic centimeters

7. To measure volume with a graduated cylinder, look at the

bottom of the _____.

Volume of a Regularly Shaped Solid Object

8. The volume of solid objects is usually expressed

in _____ units.

9. To find the _____ of a regular solid,

multiply its length, width, and height.

Volume of an Irregularly Shaped Solid Object

10. To find the volume of a(n) _____,

measure the amount of water that the object displaces.

11. One cubic centimeter (1 cm^3) is equal to

one _____.

12. To express the volume of the irregular solid, you must change

milliliters to _____.

MATTER AND MASS
Circle the letter of the best answer for each question.

13. What is the amount of matter in an object called?

   a. matter

   b. mass

   c. volume

   d. weight

The Difference Between Mass and Weight

14. Which of the following is a measure of gravitational force?

   a. inertia

   b. mass

   c. volume

   d. weight

15. What is the force that keeps objects from floating into space called?

   a. mass

   b. inertia

   c. gravitational force

   d. weight

16. Which of the following is true about the weight of an object?

   a. Weight is measured with a balance.

   b. Weight is the same on the moon.

   c. Weight is the same as mass.

   d. Weight depends on location in the universe.

17. Which of the following is true about the mass of an object?

   a. Mass depends on location.

   b. Mass is a measure of gravity.

   c. Mass is always the same.

   d. Mass depends in part on weight.

Holt Science and Technology
The Properties of Matter

Circle the letter of the best answer for each question.

18. How could you change the mass of an object?

    a. move it to the moon

    b. take some of its matter away

    c. make Earth spin faster

    d. change the object's weight

Measuring Mass and Weight

19. What is the weight on Earth of an object with a mass of 100 g?

    a. 1 newton

    b. 1 cm^2

    c. 1 mL

    d. 1 kilogram

Read the words in the box. Read the sentences. Fill in each blank with the word or phrase that best completes the sentence.

weight	newton
kilogram	mass

20. If a brick and a sponge have the same volume, the brick has

    more _____.

21. The SI unit for mass is the _____.

22. The unit for weight is the SI unit for force called

    the _____.

23. If you know an object's mass, you can figure out

    its _____ on Earth.

Directed Reading B *continued*

INERTIA

<u>Circle the letter</u> of the best answer for each question.

24. What is the tendency of an object to resist changes in motion called?

a. mass

b. gravity

c. inertia

d. weight

25. What will cause changes in the motion of objects?

a. a shift in the object's color

b. an outside force

c. a change in volume

d. a change in mass

Mass: The Measure of Inertia

26. Which of the following is the easiest to start moving?

a. a cart loaded with two potatoes

b. a cart loaded with many potatoes

c. an empty cart with no potatoes

d. a cart with one potato

Name _____Mrs. H_____ Class _____ Date _____

Directed Reading B

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Holt Science and Technology   10   The Properties of Matter

Name _____ Class _____ Date _____

⬤ **Liquid Volume**

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11. One cubic centimeter (1 cm³) is equal to

one ____milliliter____.

⬤ **12.** To express the volume of the irregular solid, you must change

milliliters to ____Cubic centimeters____

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