7th Grade At-Home Work

Due Upon Return
7th Grade Science

Day 1
Complete "Hold on for your life! Part I"

Day 2
Complete "Hold on for your life! Part II"

Day 3
Read and annotate "Everyday Compound or Poison?" Complete the questions that follow.

Day 4
Complete Elements, Compounds and Mixtures

Day 5
Complete Kingdom Card sort

Daniel Corkran
Did the data support one book of evidence or the other? Use evidence to explain why.

Explain your reasoning and why the evidence supports your claim. Consider the data.

Graphs:

Where a claim is made, use the supporting graphs.

Name

What you see next is your model.
Make a chart that answers the scientific question.

Answer:

Use the following images and notes from Chart to answer the scientific question:

Scientific Question:

Describe the behavior of ants on leaves and determine if ants and aphids show any adaptations allowing them to survive better in nature.

Notes:

- Ants are observed on leaves, primarily on the underside.
- Aphids are not visible in the images.
- Ants are moving around, possibly searching for food or protecting the leaf.

Chart Description:

- Images A, B, C, D, E, F:
  - Ants are seen on leaves with various details:
    - Image A: Ants on the top of the leaf, possibly defending.
    - Image B: Ants on the side of the leaf, close-up view.
    - Image C: Ants on the bottom of the leaf, possibly searching.
    - Image D: Ants on the leaf with aphids visible.
    - Image E: Ants on the leaf with aphids not visible.
    - Image F: Ants on the leaf with aphids not visible.

- Images G, H, I, J, K, L:
  - Similar to Images A, B, C, D, E, F, but with different angles and positions.

- Images M, N, O, P, Q, R:
  - Ants on the leaf, possibly on the underside, with aphids visible in some images.
  - Ants are moving around, possibly searching for food or protecting the leaf.

- Images S, T, U, V, W, X:
  - Similar to Images M, N, O, P, Q, R, but with different angles and positions.

- Images Y, Z, AA, AB, AC, AD:
  - Ants on the leaf, possibly on the underside, with aphids visible in some images.
  - Ants are moving around, possibly searching for food or protecting the leaf.
  - Images show the interaction between ants and aphids.

Conclusion:

Ants exhibit behavior on leaves, possibly searching for food or protecting the leaf. Aphids are not visible in the images, indicating that ants may be focusing on other aspects of their environment. The interaction between ants and aphids suggests that ants may be protecting aphids, which could be an adaptation allowing them to survive better in nature.
Everyday Compound of Poison?
Based on the information in the passage, which of the gaseous elements can cause carbon dioxide?

4. Based on the information in the passage, what is the function of carbon dioxide?

5. What happened when the atoms of a substance were nucleated?

Name: ____________________________

Readwords: Everywhere considered to suggest - Conversation Collision
6. Which is hydrochloric acid?
   a. HCl
   b. NaCl
   c. H2SO4
   d. CaCO3

7. Choose the answer that best completes the sentence below.
   a. Water is a compound
   b. Elements are compounds
   c. The elements of water are hydrogen and oxygen.
   d. Water is a compound

8. Choose the word that best describes the sentence.
   a. The student was not interested.
   b. The student was interested.
   c. The student was interested.
   d. The student was not interested.

9. What is hydrochloric acid used for?
   a. To clean stains
   b. To digest protein
   c. To digest fat
   d. To digest carbohydrates

Evidence from the passage:

10. Should people make changes to chemical compounds? Support your answer with evidence from the passage.
<table>
<thead>
<tr>
<th>Kingdom Name</th>
<th>Characteristics</th>
<th>Kingdom Number</th>
<th>Kingdom Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animal</td>
<td>S. A. have a cell.</td>
<td>Kingdom Animal</td>
<td>00 6 5</td>
</tr>
<tr>
<td>Plant</td>
<td>S. A. have cellulose.</td>
<td>Kingdom Plant</td>
<td>00 6 2</td>
</tr>
<tr>
<td>Fungi</td>
<td>S. A. are decomposers.</td>
<td>Kingdom Fungi</td>
<td>00 6 3</td>
</tr>
<tr>
<td>Protista</td>
<td>S. A. have a cell.</td>
<td>Kingdom Protista</td>
<td>00 6 1</td>
</tr>
<tr>
<td>Monera</td>
<td>S. A. have a cell.</td>
<td>Kingdom Monera</td>
<td>00 6 0</td>
</tr>
</tbody>
</table>

**Classification Kingdom Activity**

Day 5

**Day 4**
<table>
<thead>
<tr>
<th>Classification Kingdom Activity Organism Cards</th>
<th>Classification Kingdom Activity Organism Cards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Larger</td>
<td>Larger</td>
</tr>
<tr>
<td>Cell division and grow</td>
<td>Cell division and grow</td>
</tr>
<tr>
<td>Continues to undergo</td>
<td>Continues to undergo</td>
</tr>
<tr>
<td>Log through its hypoge</td>
<td>Log through its hypoge</td>
</tr>
<tr>
<td>Nutrients from a root</td>
<td>Nutrients from a root</td>
</tr>
<tr>
<td>Spreads in dry, living</td>
<td>Spreads in dry, living</td>
</tr>
<tr>
<td>Low lying organism</td>
<td>Low lying organism</td>
</tr>
<tr>
<td>This rather soft</td>
<td>This rather soft</td>
</tr>
<tr>
<td>24</td>
<td>23</td>
</tr>
<tr>
<td>22</td>
<td>21</td>
</tr>
<tr>
<td>20</td>
<td>19</td>
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<td>18</td>
<td>17</td>
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<td>16</td>
<td>15</td>
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<td>14</td>
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<td>11</td>
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<td>10</td>
<td>9</td>
</tr>
<tr>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>6</td>
<td>5</td>
</tr>
</tbody>
</table>
Social Studies

Bone
Wages
Corkran
March 16-March 27 Two-Week Packet for Social Studies

Student Name: ________________________________

- See Google Classroom for same instructions and activities noted in this packet.
- You will create a Who, What, When, Why in your journal/spiral or sticky note for the following historical figures on each given date AND select one of them to write a brief summary about them.
- March 16- Justinian, Charlemagne, and Constantine
- Warm-up: How did European nations build empires in the Americas?
- March 17- John Calvin and Martin Luther
- Warm-up: Who was Erasmus?
- March 18- Sundiata Keita and Mansa Musa
- Warm-up: What is difference between Calvinism and Lutheranism?
- March 19- Joan of Arc and Henry V
- Warm-up: Who was Bloody Mary?
- March 20- Marco Polo and Yasuke
- Warm-up: What was the Thirty Years’ War?
- March 23- Zheng He, Kublai Khan, and Genghis Khan
- Warm-up: What was the Hundred Years’ War?
- March 24- Prince Shotoku and Mohammad (founder of Islam)
- Warm-up: What were the Crusades?
- March 25- Pope Urban II, Saladin, and Mehmed II
- Warm-up: What was the Spanish Inquisition?
- March 26- Create a color-coded key or use numbers to neatly label and name countries that we have covered on the following continents: Asia, Africa, Europe, North America and South America. (Minimum of 2 per continent)
- Warm-up: What were some similarities between Johannes Kepler and Nicolaus Copernicus?
- March 27- IXL’s- Record your scores and turn in first day of return:
  - O.5, ______
  - O.6, ______
  - U.2, ______
  - JJ.1, ______
  - U.3, ______
  - U.4, ______
  - U.5, ______

On March 16th, begin the “Age of Exploration” worksheets pages 282-290. You may write on worksheet but you must write all vocabulary in your notebook/journal. Finish by March 27th.
Map of the World Showing Major Countries

Map By: WaterproofPaper.com

More Free Printables: Calendars Maps Graph Paper Targets
The Age of Exploration

Lesson 1

MAIN IDEAS
1. Europeans had a desire and opportunity to explore.
2. Portuguese and Spanish explorations led to discoveries of new trade routes, lands, and people.
4. A new European worldview developed because of the discoveries.

Key Terms and People

Henry the Navigator — Portuguese prince who started a sailing school and funded many expeditions
Vasco da Gama — first explorer to sail safely around Africa to India
Christopher Columbus — Italian explorer who accidentally discovered the Americas
Ferdinand Magellan — Portuguese navigator who first circumnavigated the globe
Francis Drake — famous English pirate who robbed Spanish ships in the Americas
Spanish Armada — huge fleet of Spanish ships defeated during an attack on England in 1588

Lesson Summary

DESIRE AND OPPORTUNITY TO EXPLORE
During the 1400s, technology like the astrolabe and the sextant helped European sailors reach faraway places and return home safely. More accurate maps and ships called caravels encouraged explorers to set off to search for new trade routes to Asia and find rare spices. They also wanted to spread Christianity and discover new lands and people.

PORTUGUESE AND SPANISH EXPLORATIONS
Henry the Navigator built an observatory and started a sailing school. Sailors often paid attention to the earlier voyages of others. Vasco da Gama used information that another sailor had learned to help him become the first person to sail safely around Africa to India.

Underline four motivations that encouraged European explorers during the 1400s.

What did Vasco da Gama and other sailors do to help them sail?

What happened to Spanish sea power after the English navy defeated the Spanish Armada?

What happened to Ferdinand Magellan when he circumnavigated the globe?

Christopher Columbus was an Italian who worked for Spain. Knowing the world was round, he headed west to reach Asia but accidentally discovered the Americas instead. It was Ferdinand Magellan, a Portuguese navigator sailing for Spain, who first circumnavigated the globe. Unfortunately, he was killed before the end of the journey. Following Columbus's path, the Spanish conquistadores sailed to the Americas in the early 1500s and conquered the Inca and Aztec civilizations.

EUROPEANS IN AMERICA
Portugal and Spain controlled southern trade routes, so French and English explorers went north. These early journeys again confused North America with Asia, but France and England claimed the land. The famous pirate Francis Drake, who worked for England, raided Spanish ships for their treasures. Spain responded by sending the Spanish Armada to attack England in 1588. The English navy defeated the Armada with the help of a great storm at sea. Spanish sea power never recovered.

A NEW EUROPEAN WORLDVIEW
After the voyages of the 1400s and 1500s, Europeans learned that some of their geographic knowledge had been wrong. They created new maps that helped spread European influence around the world.

CHALLENGE ACTIVITY
Critical Thinking: Elaborate Assume that you are an explorer living in Spain, Portugal, France, or England during the 1400s. You need to persuade a rich patron to pay for a sailing expedition. Write a proposal in which you explain the purpose for your trip and list several reasons for taking it.
The Age of Exploration

Lesson 2

MAIN IDEAS
1. Plants and animals were exchanged among Europe, Asia, Africa, and the Americas.
2. Culture and technology changed as ideas were exchanged between Europe and the Americas.

Key Terms and People

Columbian Exchange exchange of plants, animals and ideas between the New World (the Americas) and the Old World (Europe)

plantations large farms

Bartolomé de las Casas Spanish priest who opposed harsh treatment of the Indians and wanted to bring slaves from Africa to work the plantations

racism belief that some people are better than others because of racial traits

Lesson Summary

PLANTS AND ANIMALS

One primary effect of European sea explorations was the exchange of plants, animals, and ideas between the New World (the Americas) and the Old World (Europe). This is called the Columbian Exchange.

Europeans brought crops such as bananas and sugarcane from Asia to Central and South America. They also planted oranges, onions, and lettuce. Cows, goats, sheep, horses, pigs, and chickens were also brought to the New World.

Europeans took home tomatoes, potatoes, beans, squash, avocados, pineapples, tobacco, and chili peppers. This exchange changed the eating habits of the entire world, not just Europe and the Americas. Sweet potatoes and peanuts became popular in Africa. In China, peanuts and maize became major crops.
CULTURE AND TECHNOLOGY
Besides food and animals, religion and language were probably the biggest changes Europeans brought to the New World. Both Protestant and Catholic missionaries traveled to the Americas. They set up schools to convert people to Christianity and teach them European languages. In some places, Christianity blended with local customs to create new religious practices.

The Europeans also introduced technologies and animals that made life and work easier to do. Horses were used for transportation and oxen and the plough for farming. Guns, steel, and the wheel also came to the New World. Plantations and mining developed from these innovations. These new industries were mostly run by the Europeans.

SOCIETY AND THE ECONOMY
Sugarcane plantations and mines made a lot of money for Spain and Portugal. But American Indians were forced into slave labor to work in these industries. Many Native Americans died as a result of harsh treatment and new diseases.

Spanish priest Bartolomé de las Casas did not like the way the Indians were treated on the plantations. Unfortunately, his solution to the problem was to use Africans as slaves instead of American Indians. This created a new society based on racism. The white Europeans thought they were superior to the darker-skinned Indians and Africans, as well as those of mixed blood.

CHALLENGE ACTIVITY
Critical Thinking: Analyze Effects. Write a short paragraph that identifies and explains the effects of the plantation system on the Americas.

DIRECTIONS Read each sentence and fill in the blank with a word from the word bank that best completes the sentence.
1. Due to ______ white Europeans thought they were superior to darker-skinned Indians and Africans, and those of mixed blood.
2. Catholic and ______ missionaries from Europe brought religion and language to the New World.
3. Animals and technologies like ______ and the plough made farming easier to do.
4. Through the ______ crops, animals, and ideas went back and forth between Europe and the Americas.
5. The sugarcane crop made a lot of money for ______ and Portugal.
6. Large farms called ______ were mostly run by the Europeans.
7. ______ was the name of the Spanish priest who wanted to use Africans as slaves instead of American Indians.
The Age of Exploration

Lesson 3

MAIN IDEAS
1. A new economic system called mercantilism emerged.
2. New trading patterns developed in the 1600s and 1700s.
3. Power in Europe shifted as a result of new trade routes, banking, and increased manufacturing.

Key Terms and People

mercantilism trading system in which the government controls all economic activity
balance of trade relationship between imported goods and exported goods
cottage industry home-based manufacturing businesses run by families
atlas collection of maps
capitalism system in which individuals and private businesses run most industries
market economy system in which individuals decide what goods and services to buy

Lesson Summary

A NEW ECONOMY
Mercantilism was the main economic policy in Europe between 1500 and 1800. In this system, the government controls all economic activity in a country and its colonies. The government becomes stronger and richer.

To stay rich, countries tried to maintain a balance of trade. They exported more goods than they imported. Each colony only traded with its home country. Colonies were places to acquire raw materials like wood, cotton, and dyes. When the time came to sell finished manufactured products, they were sold in the colonies. These products were made by an increasing number of European families who ran businesses called cottage industries.

What effect does mercantilism have on government?

Where was the only place where a colony could trade raw materials and manufactured products?

NEW TRADING PATTERNS
The triangular trade network sent raw materials, manufactured products, and slaves back and forth to Europe, Africa, and the Americas. Portuguese, English, and Dutch traders increased the new Atlantic slave trade by cramming Africans into ships without food or water. People got sick, and many died.

POWER SHIFTS IN EUROPE
Mercantilism was most successful in Portugal and Spain, but the English and French discovered new northern trade routes. They also established a banking system that helped shift economic power in their favor. A new book of much better maps, called an atlas, helped improve northern trading expeditions. The Dutch were the first to form a company to deal directly with trade from Africa and Asia. This helped Dutch merchants control many trading posts in these regions and in India and Japan.

MARKET ECONOMIES
Increased wealth in Europe led to an increased demand for manufactured goods. People came up with ways to increase the supply to meet the demand for goods. This created the basis of capitalism. Capitalism encourages competition among manufacturers and creates a market economy. Individuals decide what goods and services they want to buy.

CHALLENGE ACTIVITY
Critical Thinking: Develop You are a shoemaker in England during the 1700s. You hear that the American colonies are in desperate need of shoes. A trader asks you if you can fill an order for 5,000 pairs of shoes—by next week! You say yes. Develop a plan to fill the order.
DIRECTIONS: On the line before each statement, write T if the statement is true and F if the statement is false. If the statement is false, change the underlined term to make the sentence true. Then write the correct term on the line after the sentence.

1. An atlas is a collection of maps that helped improve northern trading expeditions.

2. In a cottage industry, individuals decide what goods and services they want to buy.

3. The government controls all economic activity in the trading system called capitalism.

4. Countries tried to maintain a balance of trade so they could stay rich.

5. Private businesses and individuals run most industries in the system of mercantilism.

6. A home-based manufacturing business run by families is a market economy.
Math

Lee Watson
### The Number System 7th Grade

#### Skill Practice 1

<table>
<thead>
<tr>
<th>Look at the equations below. Choose True or False for each equation.</th>
<th>Look at the equations below. Choose True or False for each equation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. $-5 + 8 = -5 + (5 + 3)$</td>
<td>a. $-5 + (-7) = -5 + 7$</td>
</tr>
<tr>
<td>□ True □ False</td>
<td>□ True □ False</td>
</tr>
<tr>
<td>b. $(-7 - 5) + 7 = -7 - (5 + 7)$</td>
<td>b. $-3 + 4 = -3 + (3 + 1)$</td>
</tr>
<tr>
<td>□ True □ False</td>
<td>□ True □ False</td>
</tr>
<tr>
<td>c. $</td>
<td>\left[-8 + (-3)\right]</td>
</tr>
<tr>
<td>□ True □ False</td>
<td>□ True □ False</td>
</tr>
<tr>
<td>d. $5 + (-23) - 5 = -23 + 5 - 5$</td>
<td>d. $6 + (-31) - 6 = -31 + 6 - 6$</td>
</tr>
<tr>
<td>□ True □ False</td>
<td>□ True □ False</td>
</tr>
</tbody>
</table>

#### Which of the following is equal to $-24$? Choose all that apply.

A. $-8 \cdot 3$
B. $-6 \cdot (-4)$
C. $12 \cdot (-2)$
D. $-\frac{48}{2}$
E. $-\frac{12 \cdot 2}{1}$

#### The table below shows Quentin’s scores for each of three rounds in a trivia game.

<table>
<thead>
<tr>
<th>Round</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score</td>
<td>$-3$</td>
<td>$10$</td>
<td>$-6$</td>
</tr>
</tbody>
</table>

Which of the following could represent his total score for all 3 rounds? Circle all correct answers.

A. $-3 + 10 + (-6)$
B. $13$
C. $-3 + 10 - 6$
D. $1$

#### Which fraction equals $\frac{9}{16}$? Mark all that apply.

A. $\frac{3}{4}$
B. $\frac{9}{16}$
C. $\frac{9}{16}$
D. $\frac{3}{4}$
E. $\frac{3}{4}$

#### Which of the following expressions represents a positive number? Choose all that apply.

A. $-2.25 - (-3)$
B. $2.3 + (-2.4)$
C. $4 - (-2)$
D. $-\frac{1}{2} + (-\frac{1}{4})$
E. $-\frac{3}{4} - (-\frac{2}{5})$

#### Look at the following equations. Choose True or False for each equation.

a. $-2.5 + (-3.5) = -6$

□ True □ False

b. $-5\frac{2}{3} = 1\frac{1}{2} - (-7)$

□ True □ False
c. $-\frac{3}{4} + 2 - 2 = -\left(\frac{1}{4} + \frac{5}{2}\right) + 2$

□ True □ False
d. $-4 - (-23) = 12 + (-4)$

□ True □ False

#### Which of the following expressions represents a positive number? Choose all that apply.

A. $6.1 + (-6.3)$
B. $-4.5 - (-5)$
C. $-\frac{3}{8} + (-\frac{5}{8})$
D. $-\frac{3}{4} - (-\frac{1}{2})$
E. $3 - (-7)$

#### Look at the following equations. Choose True or False for each equation.

a. $-1.5 + (-7.5) = -9$

□ True □ False

b. $-3 + (-15) = 15 + (-3)$

□ True □ False
c. $-2\frac{1}{2} + 5\frac{3}{4} = (-8)$

□ True □ False
d. $-4\frac{3}{4} + 1 - \frac{1}{3} = -\left(4\frac{3}{4} + \frac{1}{3}\right) + 1$

□ True □ False
In the table below, Roberto recorded his team’s basketball score every 4 minute for the first half of the game.

<table>
<thead>
<tr>
<th>Time in Minutes</th>
<th>4</th>
<th>8</th>
<th>12</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score</td>
<td>8</td>
<td>16</td>
<td>24</td>
<td>38</td>
</tr>
</tbody>
</table>

His friend top says that the numbers in Roberto’s table represents a proportional relationship. Roberto disagrees.

Who is right? Explain to Roberto and Tom how to test the data in the table to see if the relationship is proportional or nonproportional.
### Ratios and Proportional Relationships 7th Grade

**Carmela walked 3 miles in \(\frac{3}{4}\) hour. Hari walked 2 miles in \(\frac{1}{2}\) hour.**
Tell whether each statement is True or False.

- a. Carmela and Hari walked at the same speed. [True]  [False]
- b. Carmela walked \(\frac{3}{4}\) mile in 30 minutes. [True]  [False]
- c. Hari walked 1 mile in 15 minutes. [True]  [False]

**Maria jogged 3 miles in \(\frac{3}{4}\) hour. Kari jogged \(3 \frac{1}{2}\) miles in \(\frac{3}{4}\) hour.**
Tell whether each statement is True or False.

- a. Maria jogged \(\frac{1}{2}\) mile in 10 minutes. [True]  [False]
- b. Kari jogged 1 mile in 12 minutes. [True]  [False]
- c. Maria and Kari jogged at the same speed. [True]  [False]

**Which of the following equations represent a proportional relationship? Choose all that apply.**

- A. \(x = 2y\)  [ ]
- B. \(a = \frac{1}{2} b\)  [ ]
- C. \(4x = y - 2\)  [ ]
- D. \(\frac{2}{3}x = n\)  [ ]
- E. \(\frac{1}{2} = \frac{1}{4}\)  [ ]

**Which of the following amounts could the whole tape diagram represent? Choose all that apply.**

- A. new salary after a 20% raise  [ ]
- B. 20% tip  [ ]
- C. new price after a 20% discount  [ ]
- D. 20% decrease in attendance  [ ]
- E. shampoo in a bottle containing 20% more shampoo  [ ]

**Wang’s pay is $32 per hour. He receives a 5% pay raise.**

**Part A**
Could Wang use any of the following methods to calculate his new hourly pay rate? Choose Yes or No for each method.

- a. Multiply 20 by 0.05 and add this result to 20. [ ] Yes  [ ] No
- b. Add 5% to his original pay. [ ] Yes  [ ] No
- c. Calculate 5% of 2. [ ] Yes  [ ] No
- d. Multiply his original pay by 1.05. [ ] Yes  [ ] No
- e. Solve for \(x = \frac{120}{20}\). [ ] Yes  [ ] No

**Gary’s pay is $15 per hour. He receives a 6% pay raise.**

**Part A**
Could Gary use any of the following methods to calculate his new hourly pay rate? Choose Yes or No for each method.

- a. Calculate 15% of 6. [ ] Yes  [ ] No
- b. Multiply 15 by 0.06 and add this result to 15. [ ] Yes  [ ] No
- c. Multiply his original pay by 1.06. [ ] Yes  [ ] No
- d. Solve the equation \(\frac{x}{100} - \frac{10}{100}\) for \(x\). [ ] Yes  [ ] No
- e. Add 5% to his original pay. [ ] Yes  [ ] No

**Consider the following relationships:**

**I.**

- a. \(x\) \(\begin{array}{l}7 \ 10 \ 13 \ \end{array}\)
- b. \(y\) \(\begin{array}{l}9 \ 10 \ 13\end{array}\)

**II.**

- a. \(x\) \(\begin{array}{l}6 \ 7 \ 8\end{array}\)
- b. \(y\) \(\begin{array}{l}17 \ 18 \ 19 \end{array}\)

**Tell whether the following statements about the relationships are True or False.**

- a. The unit rate for II is the unit rate for IV. [ ] True  [ ] False
- b. The unit rate for I is the unit rate for III. [ ] True  [ ] False
- c. The unit rate for I is the unit rate for III. [ ] True  [ ] False
- d. It does not represent a proportional relationship. [ ] True  [ ] False
- e. III does not represent a proportional relationship. [ ] True  [ ] False

**Look at each table. Does it show a proportional relationship? Select Yes or No for each table.**

<table>
<thead>
<tr>
<th>(x)</th>
<th>(y)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. 6</td>
<td>7</td>
</tr>
<tr>
<td>b. 7</td>
<td>8</td>
</tr>
<tr>
<td>c. 8</td>
<td>9</td>
</tr>
<tr>
<td>d. 9</td>
<td>10</td>
</tr>
</tbody>
</table>
Moses High School held a car wash fundraiser for their girls' basketball team. Tessa and Caleb are student at Moses High School. Each recorded some information about the money collected and the number of cars washed.

**Car Wash**

![Graphs showing money collected vs. number of cars washed for Tessa and Caleb.]

a. Tessa and Caleb both claim that their graphs represent proportional relationships. Use mathematical reasoning to agree or disagree with their claims.

b. Caleb thinks that the graphs represent the same situation but show different unit rates, explain what Caleb is thinking.

c. What does each unit rate mean in the context of the car wash fundraiser?
Expressions and Equations 7th Grade

Which scenario represents the expression \(4x - 4\)? Select Yes or No for each scenario.

a. Jack earns $4 per hour but owes his parents $4; \(x\) represents the number of hours he works.
   - Yes  - No

b. Alex is 4 years older than 4 times Ava’s age; \(x\) represents Ava’s age.
   - Yes  - No

c. A store has a 4% discount on gloves; Mike bought \(x\) pairs of gloves at $4 a pair.
   - Yes  - No

d. Jane bought \(x\) number of tickets at $4 each and had a coupon for $4 off the total cost.
   - Yes  - No

Which of the following are equivalent to \(3(p + 2)\)? Choose all that apply.

A. \(6p + 3p^2\)
B. \(3(p^2 + 2p)\)
C. \((p + 2)3p\)
D. \(3p + 6\)
E. \(p - 3(p + 2)\)

Which of the following solution sets represent the inequality \(10 + \frac{1}{2}x \geq 37\)?

A. \([-\infty, 50]\)
B. \([-\infty, 50] \cup \{50\}\)
C. \([-\infty, 50)\)
D. \([-\infty, 50) \cup \{50\}\)

Justin has $119 to spend at the mall. He wants to buy a hat that costs $25 and a pair of jeans that cost $40. He is also thinking about buying some bags of socks that cost $12 each. There is no tax on any of his purchases.

Which statements are true?

Choose all that apply.

A. If \(x\) is the number of socks Justin can buy, then the inequality representing situation is \(x \leq 5\).
B. If Justin buys the hat and the jeans, solving the inequality \(12x + 65 = 110\) for \(x\) will tell him the maximum number of pairs of socks he can buy.
C. If Justin buys the hat but not the jeans, solving the inequality \(12x + 40 = 110\) for \(x\) will tell him the maximum number of pairs of socks he can buy.
D. If Justin buys the hat, jeans, and the maximum number of pairs of socks, he will have enough money left to buy 2 belts that are on sale for $59.

If \(x\) is a number that satisfies the condition of the number and \(x\) multiplied by \(\frac{3}{4}\) is equal to \(-12\), which equations can be used to find \(x\)? Choose all that apply.

A. \(\frac{3}{4}(x + 8) = -12\)
B. \(\frac{3}{4}x + 6 = -12\)
C. \(x + 6 = -12\)
D. \(\frac{3}{4}x - 8 = -12\)

Which of the following are equivalent to \(5m(m + 3)\)? Choose all that apply.

A. \(5m^2 + 3m\)
B. \((m + 3)m\)
C. \(5m + 15\)
D. \(15m + 5m^2\)
E. \(5m^2 + 3m\)

Kyle is saving money to buy a bicycle. He has $45.15 in his savings account and saves 10% of his paper route earnings each week. After 16 weeks, he has $108.50 in his savings account, so he represents the amount Kyle earns each week from his paper route.

Choose True or False for each statement.

a. The equation \(45.5 + 0.10x = 90.5\) represents this situation.
   - Yes  - No
b. The equation \(45.5 + 0.10x = 90.5\) represents this situation.
   - Yes  - No
c. Each week, Kyle saves $5.00.
   - Yes  - No
d. Each week, Kyle saves $4.50.
   - Yes  - No
e. Kyle earns $50.00 each week from his paper route.
   - Yes  - No
f. Kyle earns $45.00 each week from his paper route.
   - Yes  - No
Holiday Party

7th Grade Day 3

Johanna is planning a holiday party. She plans to buy a cake for $12.50 and gifts for $3.95 each.

<table>
<thead>
<tr>
<th>a. Write an inequality that can be used to determine the number of gifts Johanna can buy if she cannot spend more than $75.00 on the party. Explain what each term in your inequality means in the context of the problem.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>b. Solve the inequality you wrote in part a. Use a number line to graph the solutions that make sense in the context of the problem.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>c. Johanna's mom offers to contribute $25 to the party fund. Johanna has $75.00 of her own money. Since she has more money to spend, Johanna decides to spend $15.00 on the cake and $4.25 on each gift. Does Johanna have enough money to buy 18 gifts? Show each step of your work.</th>
</tr>
</thead>
</table>
A triangle has two sides with lengths 5 cm and 8 cm. Which statement could be true about the triangle? Choose all that apply.

A  The third side could be 13 cm long.
B  The third side could be less than 5 cm long.
C  The triangle could be isosceles.
D  The sum of all side lengths could be 15 cm.
E  The sum of all side lengths could be 25 cm.

Consider the following statements about the diagram below. Choose True or False for each statement.

a. ∠BFE and ∠ABC are vertical angles.  [ ] True  [ ] False
b. m∠CBO = 180° - m∠BAC  [ ] True  [ ] False
c. ∠ABC and ∠CBE are supplementary angles.  [ ] True  [ ] False
d. ∠CBF and ∠DBE are complementary angles.  [ ] True  [ ] False

A triangle has two sides with lengths 7 m and 12 m.

Part A
Which of the following lengths could represent the length of the third side? Choose all that apply.

A  4 m
B  7 m
C  10 m
D  17 m
E  19 m

A triangle has two sides with lengths 8 cm and 15 cm.

Part A
Which of the following lengths could represent the length of the third side? Choose all that apply.

A  6 cm
B  7 cm
C  10 cm
D  14 cm
E  23 cm

Prism A is a right triangular prism with a base that is a right triangle. Prism B is a right rectangular prism with a base that is a square. Both right prisms are the same height, h.

The vertical faces of each prism are the faces that are not the bases.

Part A
Tell whether each statement about the prisms is True or False.

a. The sum of the areas of the vertical faces of Prism A is greater than the sum of the areas of the vertical faces of Prism B.  [ ] True  [ ] False
b. The area of the base of Prism A is less than the area of the base of Prism B.  [ ] True  [ ] False
c. There is no value of h for which the surface areas of the prisms will be equal.  [ ] True  [ ] False
d. If the height is doubled in Prism B, the surface area of Prism B will also double.  [ ] True  [ ] False
In Denmark, the average monthly temperature for February is 0° Celsius. The chart below shows the temperatures for 9 days during the month, taken at noon each day.

<table>
<thead>
<tr>
<th>Temperature (celsius)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2°</td>
</tr>
<tr>
<td>–8°</td>
</tr>
<tr>
<td>3°</td>
</tr>
<tr>
<td>7°</td>
</tr>
<tr>
<td>–10°</td>
</tr>
<tr>
<td>–6°</td>
</tr>
<tr>
<td>2°</td>
</tr>
<tr>
<td>7°</td>
</tr>
<tr>
<td>–3°</td>
</tr>
</tbody>
</table>

Write and evaluate two equivalent expressions that can be used to determine the difference between the highest and lowest temperatures.

What is the mean temperature for the days shown in the chart? Show your work.

What does the temperature on the tenth day need to be in order for the ten-day mean to equal 0? Explain your reasoning.

One day the temperature was 5° at noon. It dropped 7 degrees by midnight. Use the number line below to determine the temperature at midnight.
Statistics and Probability 7th Grade

Students from two high schools competed in a pumpkin growing contest. The weights of the heaviest pumpkins grown by students at each school are shown in the table.

<table>
<thead>
<tr>
<th>Pumpkin Weights (in pounds)</th>
<th>High School A</th>
<th>High School B</th>
</tr>
</thead>
<tbody>
<tr>
<td>375</td>
<td>375</td>
<td>400</td>
</tr>
<tr>
<td>375</td>
<td>410</td>
<td>410</td>
</tr>
<tr>
<td>315</td>
<td>550</td>
<td>600</td>
</tr>
<tr>
<td>600</td>
<td>625</td>
<td>625</td>
</tr>
<tr>
<td>500</td>
<td>600</td>
<td>600</td>
</tr>
</tbody>
</table>

Which of these statements are true? Choose all that apply.

A. High School B's pumpkin weights are more consistent than High School A's pumpkin weights, as measured by the range and interquartile range.
B. The mean and median weights of High School A's pumpkins are the same value.
C. The interquartile range of High School B's pumpkin weights is 100.
D. The mean weight of High School B's pumpkins is 525 pounds.
E. High School A produced the heaviest pumpkins but High School B's pumpkins were heavier on average.

Two small local dog shows record the weight of each dog to the nearest pound entering the competition. The data are presented in the histograms.

Dog Weights (lb)

Dog Show 1

Dog Show 2

Number of Dogs

Which is a valid inference based on the histograms shown? Choose all that apply.

A. The median weight in Dog Show 1 is lower than the median weight in Dog Show 2.
B. The weights in Dog Show 1 are less variable than the weights in Dog Show 2.
C. The range of weights in Dog Show 1 is greater than the range of weights in Dog Show 2.
D. The distribution of weights in Dog Show 1 is more symmetrical than the distribution of weights in Dog Show 2.
E. More dogs weighing less than 80 pounds were entered into Dog Show 1 than in Dog Show 2.

Choose True or False for each statement about the spinners.

Choose True or False for each statement about the spinners.

- a. The probability of spinning a triangle is the same on both spinners.
- b. The probability of spinning a square is greater on Spinner B than on Spinner A.
- c. The probability of spinning a circle on Spinner A is \( \frac{1}{6} \).
- d. The probability of spinning a circle on Spinner A is \( \frac{2}{6} \).

- a. The probability of spinning a circle is the same on both spinners.
- b. The probability of spinning a triangle is greater on Spinner B than on Spinner A.
- c. The probability of spinning a square on Spinner B is \( \frac{4}{6} \).
- d. The probability of spinning a square on Spinner A is \( \frac{2}{6} \).
Skill Practice 5 Continues

Two small local dog shows record the weight of each dog (to the nearest pound) entering the competition. The data are presented in the histograms.

Which is a valid inference based on the histograms shown? Choose all that apply.

A. The weights in Dog Show 1 are less variable than the weights in Dog Show 2.
B. The range of weights in Dog Show 1 is greater than the range of weights in Dog Show 2.
C. The median weight in Dog Show 1 is lower than the median weight in Dog Show 2.
D. More dogs weighing less than 80 pounds were entered into Dog Show 1 than in Dog Show 2.
E. The distribution of weights in Dog Show 1 is more symmetrical than the distribution of weights in Dog Show 2.

The dot plots show the numbers of hours two different groups of students spend online each week.

Group A
TIME SPENT ONLINE

Group B
TIME SPENT ONLINE

Which statement correctly compares the data?

A. The measures of center are closer to each other for Group A than for Group B.
B. The measures of center are higher for Group A than for Group B.
C. The variability in Group A is greater than the variability in Group B.
D. The variability in Group A is less than the variability in Group B.
Broken Light Bulbs

Tamela works for I.D.E.A. Light Bulb Company. She inspects cases of light bulbs and counts the number of broken bulbs. Last week, she recorded her count in the table below.

<table>
<thead>
<tr>
<th>Total Number of Light Bulbs in Case</th>
<th>Number of Broken Light Bulbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>150</td>
<td>3</td>
</tr>
<tr>
<td>250</td>
<td>5</td>
</tr>
<tr>
<td>600</td>
<td>12</td>
</tr>
</tbody>
</table>

a. Prove that the data in Tamela's table indicate a proportional relationship.

b. Determine the percent of broken bulbs in each case and use that percentage to predict the number of broken light bulbs in a case of 800 bulbs, assuming the pattern continues. Use mathematical reasoning to justify your response.