

## 7th Grade Remote Learning Non Digital Packet

### Math:

#### Answer the following questions and show all work.

1. A car traveled 281 miles in 4 hours 41 minutes. What was the average speed of the car in miles per hour?
2. In a group of 120 people, 90 have an age of more 30 years, and the others have an age of less than 20 years. If a person is selected at random from this group, what is the probability the person's age is less than 20?
3. The length of a rectangle is four times its width. If the area is 100 m<sup>2</sup> what is the length of the rectangle?
4. A six-sided die is rolled once. What is the probability that the number rolled is an even number greater than 2?
5. Point A has the coordinates (2,2). What are the coordinates of its image point if it is translated 2 units up and 5 units to the left, and reflected in the x axis?
6. The length of a rectangle is increased to 2 times its original size and its width is increased to 3 times its original size. If the area of the new rectangle is equal to 1800 square meters, what is the area of the original rectangle?
7. Each dimension of a cube has been increased to twice its original size. If the new cube has a volume of 64,000 cubic centimeters, what is the area of one face of the original cube?
8. Pump A can fill a tank of water in 5 hours. Pump B can fill the same tank in 8 hours. How long does it take the two pumps working together to fill the tank?(round your answer to the nearest minute).
9. A water tank, having the shape of a rectangular prism of base 100 square centimeters, is being filled at the rate of 1 liter per minute. Find the rate at which the height of the water in the water tank increases. Express your answer in centimeters per minute.

10. Dany bought a total of 20 game cards some of which cost \$0.25 each and some of which cost \$0.15 each. If Dany spent \$4.2 to buy these cards, how many cards of each type did he buy?

**Math Task Project:**

Mark videotapes his friend Patty running 7 mph with his tablet computer. When Mark plays the video back on his tablet, he can speed up the video, slow down the video or run it in reverse at different speeds.

Mark plays the video of Patty running at triple speed.

1. Write a number sentence to indicate the speed Patty's image is moving while the video is playing.

Mark makes a second video of his friend Nick running backwards at 3mph. The negative sign is often used in math equations to indicate a negative direction.

2. Mark plays the video of Nick running backwards. What integer value would indicate the speed and direction Nick runs in the video?

\_\_\_\_\_mph \_\_\_\_\_

Mark plays the image of Patty in reverse and at half speed.

3. Write a number sentence that represents Patty's speed and the direction of her image as it appears in the video.

Explain how you figured it out.

Mark plays the image of Nick running in reverse and at four times the speed.

5. Write a number sentence that represents Nick's speed and the direction of his image as it appears in the video.

# Science:

## Egg in the bottle Experiment:

### **Experiment Procedure.**

1. Drop the paper into the milk bottle or other glass container you are using (an Erlenmeyer flask works well). Quickly place the egg at the top of the glass container. The egg should be pulled into the container! To get the egg out just as quickly, blow into the bottle. The air you blow in will push the egg back out into your mouth (so maybe have a friend do this part instead).
2. After you have removed the egg and cleaned out the bottle, try placing three birthday candles in one end of a new hard boiled egg. Make sure the candles are close enough together that they can fit in the opening of your bottle.
3. Using matches or a lighter, light the candles
4. Hold the bottle upside down and insert the lit end of the candles/egg into the bottle. The candles should go out and the egg should be pulled up into the bottle!

### **Materials List**

- Milk bottle or other glass container
- Hard boiled eggs (peeled)
- Birthday candles
- Paper
- Adult supervision

### **Exercise ( Workout)**

\* Perform 5 full rounds of exercise, do a full round (1-5) with no rest and then rest 2 minutes between each round

1. 15 jumping jacks
2. 10 squats
3. 5 pushups
4. 10 mountain climbers (5 each leg)
5. 10 burpees