

Jose de Diego Middle



School Mathematics



Grade 7

Winter Break Packet

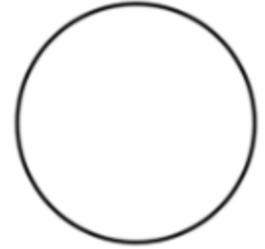
Winter Break Packet 7th Grade Core Mathematics

1. MAFS.7.G.2.4 - Circles

a. State the formula for finding the circumference of a circle

b. Explain what each symbol in the formula represents

c. On the diagram to the right, draw and label the dimensions represented by the variables in the formula.



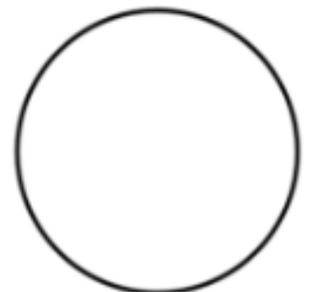
2. MAFS.7.G.2.4 - Circles

The London Eye is a giant Ferris wheel on the south bank of the river Thames in London, England. The height of the entire structure, including the support frame, is 135 meters. The wheel has a diameter of 120 meters. Find the circumference of the wheel. Show your work or explain how you found your answer.



3. MAFS.7.G.2.4 - Circles

The circumference of a circle is 53.38 centimeters. What is the area in square centimeters?
Use 3.14 for π



4. MAFS.7.G.1.1 - Scale Drawings

Lisa drew a picture of a boat. She use the scale 1 inch : 6.5 feet. The boat in her picture is 7.25 inches long. What is the length, in feet, of the actual boat?



5. MAFS.7.G.1.1 - Scale Drawings

Tiffany sketched a picture of a car. She used the scale 2 inches : 12 feet. The car in her sketch is 8 inches long. What is the length, in feet, of the actual car?

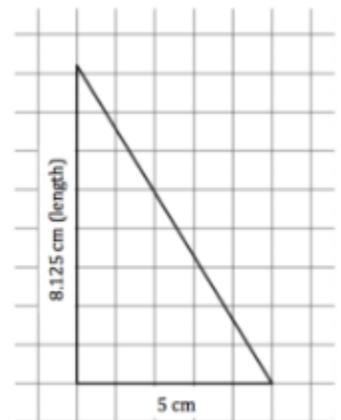


6. MAFS.7.G.1.1 - Scale Drawings

Many supersonic jet aircraft in the past have used triangular wings called delta wings. Below is a scale drawing of the top of a delta wing. The scale is 2 centimeters (cm) in the drawing to 192 cm on the actual wing.

a. What is the length of the actual wing? Show all work and explain how you found your answer.

b. What is the area of the actual wing? Remember that area of a triangle is $A = \frac{1}{2}bh$



7. MAFS.7.G.1.1 - Scale Drawings

The perimeter of a rectangular garden is 37.5 feet (ft). The width is x , and the length is 15 ft. What is the width, in feet, of the garden?

8. MAFS.7.NS.1.1 - Adding Integers

Angel is a novice when it comes to scuba diving. His first dive was 12 feet deep, and his second dive was 3 feet deeper than the first. Describe the depth of Angel's second dive. Show your work on a number line.



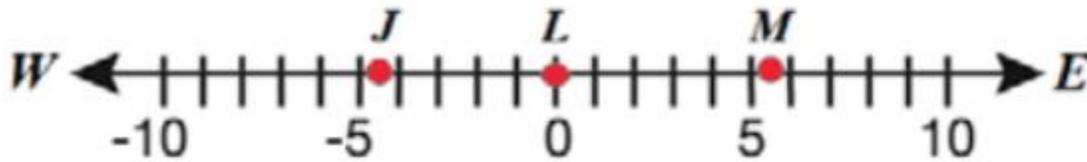
9. MAFS.7.NS.1.3 - Adding/Subtracting Integers

At 8:00, the temperature was 6 degrees Celsius ($^{\circ}\text{C}$). Three hours later, the temperature was -13°C . By how many degrees Celsius did the temperature change?



10. MAFS.7.NS.1.3c - Adding/Subtracting Integers

Megan and Jake both live on the same street that the library is on. How many kilometers (km) apart do Megan and Jake live?



Jake (J): 4.5 km from the library (L)

Megan (M): 5.5 km from the library (L)

11. MAFS.7.NS.1.3c - Adding/Subtracting Integers

The change in the price of a certain brand of cereal from 2010 to 2012 is shown in the table. In 2009 the price of the cereal was \$3.69. What was the price of the cereal at the end of 2012?

Year	Price Change (in dollars)
2010	+0.30
2011	+0.20
2012	-0.20

12. MAFS.7.NS.1.3 - Adding/Subtracting Integers

At 6pm, the temperature was 11°C . By midnight, the temperature was -3°C . On the numberline, show how to find the difference between the temperatures.



13. MAFS.7.RP.1.3 - Proportional Relationships

Today, gasoline prices are \$3.44 per gallon. One year ago, gasoline prices were \$3.75 per gallon. Determine the percent change in the gasoline price from a year ago to today. Show how you calculate this change and interpret its meaning in the context of the problem.

14. MAFS.7.RP.1.3 - Proportional Relationships

The sales team at an electronics store sold 48 computers last month. The manager at the store wants to encourage the sales team to sell more computers and is going to give all the sales team members a bonus if the number of computers sold increases by 30% in the next month. How many computers must the sales team sell to receive the bonus? Show your work!

15. MAFS.7.RP.1.3 - Proportional Relationships

Andy bought a meal in a town that has no sales tax. She tips 20%. Select all meals Nicole could buy for less than or equal to \$15 total.

- \$12.36
- \$12.50
- \$13.00
- \$14.79
- \$14.99

16. (MAFS.7.RP.1.1)

A recipe used $\frac{2}{3}$ cup of sugar for every 2 teaspoons of vanilla. How much sugar was used per teaspoon of vanilla?

17.(MAFS.7.RP.1.1)

A recipe calls for $\frac{2}{3}$ cup of sugar for every 4 teaspoons of vanilla. What is the unit rate in teaspoons per cup?

18.(MAFS.7.RP.1.2a)

A business in the Florida Keys offers Key West Jet Ski Tours for the following rates:

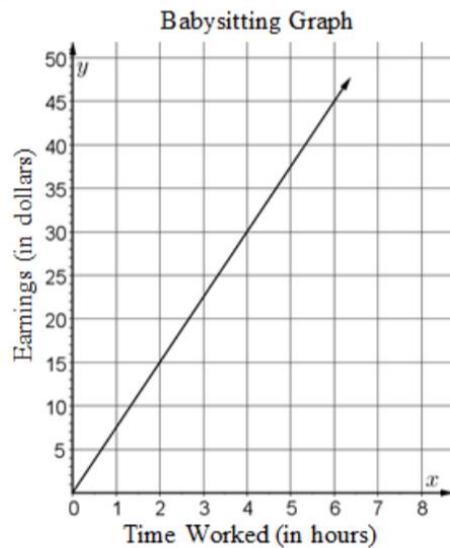
Tour Prices

Time (in hours)	Price (in dollars)
$\frac{3}{4}$ hour	\$90.00
$1\frac{1}{2}$ hours	\$130.00
2 hours	\$180.00

Are the two quantities, time and price, proportionally related? Explain.

19.(MAFS.7.RP.1.2d)

The amount Sandy earns from babysitting is proportional to the number of hours she works. The graph represents this proportional relationship.



- 1.) Explain what the point $(0, 0)$ represents in the context of this problem.
- 2.) Explain what the point $(6, 45)$ represents in the context of this problem.
- 3.) Find the hourly rate that Sandy charges and write this as an ordered pair.

20. (MAFS.7.RP.1.2)

Julianna participated in a walk-a-thon to raise money for cancer research. She recorded the total distance she walked at several different points in time, but a few of the entries got smudged and can no longer be read. The times and distance that can still be read are listed in the table below.

- a. Complete the table and identify Julianna's walking rate in miles per hour.
- b. Write an equation for the distance (d) in miles that Julianna walked in (n) hours.

Time in hrs.	Miles walked
1	
2	6.4
	8
5	