Name _____ Date _____

Charging Cord

$\frac{2}{3}$ of a charging cord is $\frac{1}{2}$ meter long. How long is the charging cord? (Answer in meters.)

Name _____ Date _____

Prizes, Prices, and Percents

(1) Would you prefer 33% of a $100 prize or 75% of a $50 prize?

(2) 8 is 25% of what number?

(3) 14 is what percent of 200?

(4) Write 6.25% as a decimal, then as a fraction in lowest terms.

(5) Find the total cost of a $16 item after a sales tax of 6.25% is added.

(6) A 3% tax on a $100 item adds _____ dollars to the cost. A 3% tax on a $1 item adds _____ dollars to the cost.

Name _____ Date _____

South Pole Temperatures

Time	Hours after Midnight	Temp °F
8:00 pm	−4	−42
9:00 pm	−3	−42
10:00 pm	−2	−41
11:00 pm	−1	−40
Midnight	0	−39
1:00 am	1	−39
2:00 am	2	−38

The table shows temperatures at the South Pole before and after midnight on October 10–11, 2019. Plot the data on graph paper and label the plot. Describe any patterns you see.

Name _____ Date _____

Gas Mileage

My car drives 570 mi with 15 gal of gas.

(1) Use mental math and/or pencil and paper to answer:

(a) If I drive 57 mi, I'll use _____ gal.

(b) If I drive 5,700 mi, I'll use _____ gal.

(c) If I have 5 gal left, I can drive _____ more mi.

(d) I can drive _____ mi with 30 gal.

(2) Calculate both unit rates for the proportional relationship. Use a calculator if you like. Write the answers here, and include the units.

_____ _____

(3) Answer these additional questions:

(a) If I drive 532 mi, I'll use _____ gal.

(b) If I have 11 gal left, I can drive _____ more mi.

(4) Make a two-column table using your answers to (1a), (1c), (1d), (3a), and (3b). Then use graph paper to plot the values in the table. Label the axes of your plot.

Name _____ Date _____

Positive and Negative Numbers

(1) Which of the numbers $5, -7, \frac{2}{3}, -\frac{1}{2}$ is farthest from 0 on the number line?

Which is closest to 0?

(2) True or false: $\frac{1}{2} > -8$.

(3) Explain why $-(-0.2) = 0.2$ makes sense.

Name _____ Date _____

Planting Corn

A farmer uses a tractor to plant corn quickly in the springtime. The farmer plants 216 acres every 12 hours. Create a formula for the number of acres the farmer plants in n hours.

Name _____ Date _____

Song Length Distribution

(1) Look up the 50 top songs on a music streaming service. Type each song's duration into a spreadsheet.

(2) Write a sentence about the data giving a measure of center and a measure of variability.

(3) Make a histogram of the data. (Use technology, or draw it in the space provided or on another sheet of paper.)

(4) Write a sentence describing the overall pattern of the distribution and any striking deviations from the overall pattern.

(5) Imagine that one year from now, you go back online and repeat (1)–(4). In what ways would you expect the data distribution to look similar? What differences would you expect to see?

This task is not designed for numerical scoring.

Name _____ Date _____

Evaluating an Expression

Pencils down If $r = 1.748$, what is the value of $0.96r + 0.04r - r$?

This task is not designed for numerical scoring.

Name _____ Date _____

Truckload of Gravel

How much of a $\frac{3}{4}$ -ton truckload is $\frac{2}{3}$ ton of gravel?

Name _____ Date _____

Weekdays and Weekend Days

In the month of February 2021, there were 20 weekdays and 8 weekend days. Here are some questions about that month.

(1) (Circle all of the correct answers.) The ratio of weekdays to weekend days was

20:8 10:4 5:2 5:7

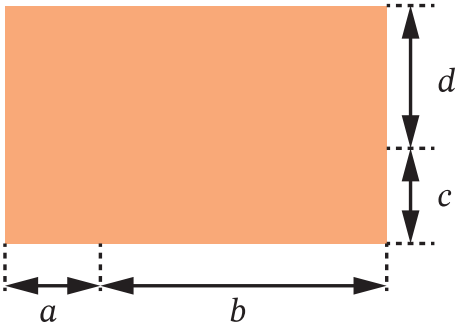
(2) There were ____ times as many weekdays as weekend days.

(3) True or false: $\frac{5}{7}$ of the days that month were weekdays.

(4) Approximately what percent of the days that month were weekdays?

Name _____ Date _____

Area Expressions



The diagram shows a rectangle. The variables *a, b, c,* and *d* are lengths in meters.

(1) Using the variables, write three different expressions for the area of the rectangle.

(2) Choose two of your expressions and show that they are equivalent by applying properties of operations.

(3) State the property or properties you used.

Name _____ Date _____

Coordinate Triangle

(1) What is the area of the triangle in the coordinate plane with vertices (1, 2), (−5, 2), and (−8, 9)?

(2) How does the area change if we change the third vertex to (−3, 9)?

Name _____ Date _____

Pencils down Think about the equation $241p = \frac{3}{4}$.

(1) Is there a whole number that solves it? Yes No

(2) Is there a non-whole number that solves it? Yes No

(3) Convince a classmate that your answers are right.

Name _____ Date _____

Dividing Decimals and Fractions

Use pencil and paper.

(1) $81.53 \div 3.1 = ?$

(2) $\frac{7}{8} \div \frac{2}{3} = ?$

(3) Check both of your answers by multiplying.