Name Date

7th Grade Benchmark for Topics 1 and 3 (non-calculator section)

Be sure to *show all of your thinking*, read each question carefully, and provide complete answers. Make sure to answer each questions fully.

Standards: 7.NS.A.1a, 7.NS.A.2d, 7.NS.A.1b, 7.NS.A.1d, 7.NS.A.1c, 7.NS.A.2a, 7.NS.A.2c, 7.NS.A.2b, 7.NS.A.3, 7.EE.B.3, 7.NS.A.1, 7.RP.A.1, 7.RP.A.3, 7.RP.A.2a, 7.RP.A.2b, 7.RP.A.2c, 7.RP.A.2d, 7.RP.A.2

1. Select all the rational numbers. **(7.NS.A.2d)**

- 3.02859...
- 3
- 3.14159...
- $3.\overline{7}$

2. A scuba diver is 15.5 feet below the surface of the water. The diver continues to swim downward at a rate of 2.5 feet per second, *x*. **(7.NS.A.3)**

Part A:

Write the expression that represents this situation.

Part B:

What integer represents her location relative to the surface after 7 seconds?

3. The record high temperature on January 15 is 41°F. The record low temperature on that day is −16°F. What is the difference in the record temperatures? **(7.NS.A.1d)**

4. Select all the expressions that are equivalent to $(-60) \div 5$. **(7.NS.A.2b, 7.NS.A.2a)**

- ☐ $60 \div (-5)$
- ☐ $(-60) \div (-5)$
- ☐ $(-60) \times \frac{1}{5}$
- ☐ $60 \times \left(-\frac{1}{5}\right)$
- ☐ $(-60) \times \left(-\frac{1}{5}\right)$

5. What is the reciprocal of $-3\frac{2}{7}$? **(7.NS.A.2c)**

A. $-3\frac{7}{2}$

B. $-\frac{23}{7}$

C. $-\frac{7}{23}$

D. $3\frac{2}{7}$

6. Abigail is on a hike. She has traveled 12 km up the mountain. What integer represents how far she needs to travel to return to the base of the mountain? **(7.NS.A.1a)**

7. Which of the following represents the lowest speed in miles per hour? **(7.NS.A.2)**

A. 6 miles in $\frac{1}{8}$ hour

B. 11 miles in $\frac{1}{4}$ hour

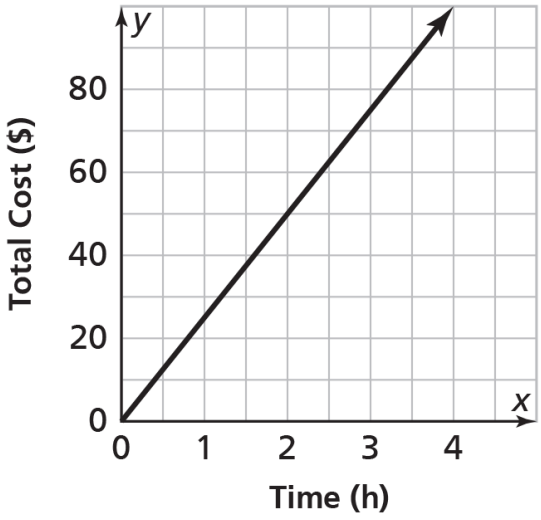
C. 20 miles in $\frac{1}{2}$ hour

7th Grade Benchmark for Topics 1 and 3 (calculator section)

Be sure to *show all of your thinking*, read each question carefully, and provide complete answers. Make sure to answer each questions fully.

Name Date

8. The graph represents the cost of renting a generator from a hardware store. **(7.RP.A.2d)**



Part A

What does the point (0, 0) mean in the problem situation?

Part B

Choose one ordered pair on the graph and explain what it means in the problem situation.

9. Kenny bought a 50-pound bag of chicken feed for $29.98 and a 25-pound bag for $15.49. Do they have the same constant of proportionality? **Show your work! (7.RP.A.2)**

10. The table shows the prices charged at a dry cleaner. **(7.RP.A.2a)**

Number of Shirts	**Price**
4	$3.96
10	$9.90
16	$15.84
22	$21.78

Is the relationship between the price and number of shirts proportional? Explain.

11. Each year, the students in seventh grade go to an environmental camp. This year, the total cost is $1,580 for 79 students. **(7.RP.A.2b, 7.RP.A.2c)**

Part A

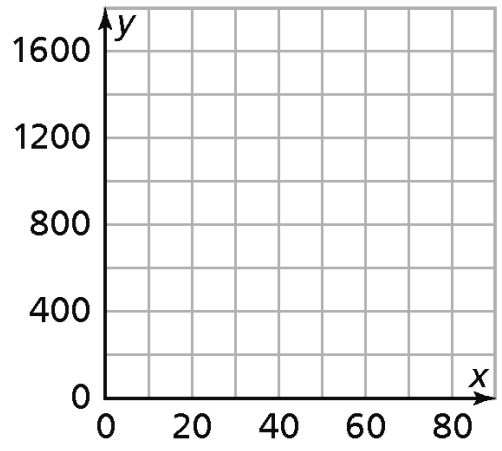
How much does it cost for each student to attend the camp?

Part B

Write an equation to represent the cost, *y*, of attending the camp for *x* number of students.

Part C

Graph the equation from Part B. Label the graph.



12. Which fruit has the lowest unit price? **(7.RP.A.3)**

A. 4 pounds of apples for $5.49

B. 5 pounds of oranges for $6.99

Show unit price for each in your work and explain how you know.