Lesson #75

1. Xander ended part one of a video game with a score of −220. In the second part, he scored 643 points. What was his final score?

2. Simplify this complex fraction. $\frac{\frac{1}{7}}{2\frac{1}{3}}$

3. **An unbiased sample is fair; it accurately represents the total population being studied.** Mr. Chen wants to find out how many parents are likely to support an overall increase in student fees to pay for band uniforms. Which of these would produce the most unbiased sample?

4. Use the properties of addition to simplify this expression. $-10 + 5c + -7 + 8c$

5. **Complementary angles are two angles whose sum is 90°.** The image shows an example of complementary angles. Give the value of a.

6. Carol and four others bought shirts that were exactly alike. The cost for all five shirts was $105 plus 7% sales tax. If each person contributes $22, will that be enough to cover the bill? Estimate and explain.

7. What number must be added to −34 to get the sum of zero?

8. The regular price of a ski trip is $80. Students are eligible for a 15% discount. What is the special price that students pay?

9. In the answer box, color the sections of the spinner: 2 red, 2 green, 2 blue, and 2 yellow. What is the probability that the spinner will land on purple?

10. Use long division to write the fraction $\frac{5}{8}$ as a decimal. If it is a repeating decimal, be sure to use the proper notation.

11. The graph represents the number of meters Troy jogs per second. What is the meaning of point N on the graph? Of point Q?

12. Admission to the museum was $23.50 per person. If students were eligible for a 20% discount, what percent of the original price did the students pay?

1. 7.NS.3

2. 7.RP.1

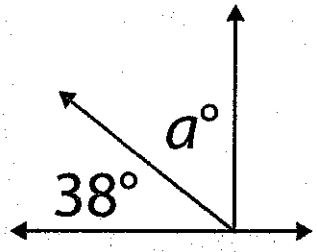
3. 7.SP.2

A) Mr. Chen uses an automated telephone system to randomly survey parents of students who attend the school.

B) Mr. Chen randomly selects parents of students who take music lessons or who are in the band or school orchestra. He mails a questionnaire to their homes.

4. 7.EE.1

5. 7.G.5

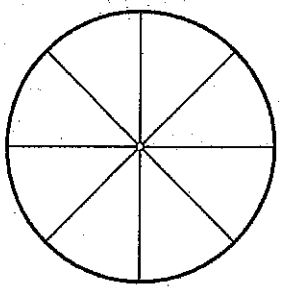


6. 7.EE.3

7. 7.NS.1

8. 7.RP.3

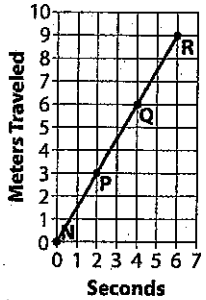
9. 7.SP.5



10. 7.NS.2

$8\overline{)5}$

11. 7.RP.2



12. 7.EE.2

Lesson #76

1. Use long division to write the fraction $\frac{2}{9}$ as a decimal.

2. Write an expression in simplest form to show the perimeter of the rectangle. Find the perimeter if $x = 6$ cm. See the *Help Pages* for instructions.

3. Which of these sets of side lengths can be used to make a triangle?

4. The graph represents the cost of potatoes at a farmer's market. What is the unit rate? Give the coordinates of the point on the graph that correspond to the unit rate.

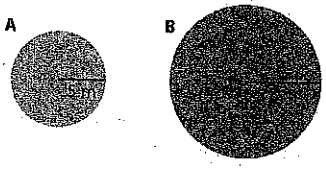
5. Which of these has the same value as $-4 + 3$? Give the sum or difference.

6. Solve. $[55 - (-38)] \div 3 = ?$

7. **Vertical angles are created when two lines intersect. Vertical angles are always congruent.** Angles *A* and *B* are vertical angles. If the measure of angle *A* is 25°, what is the measure of angle *B*?

8. What is the probability of rolling an odd number on a number cube?

9. Find the difference in circumference between circles A and B. Use 3.14 for pi.



10. The coach provides 5 bats and 20 baseballs for every 7 players. If there are 11 players, how many bats and balls will the coach bring? Be sure your answer makes sense.

11. Jerome invests $1,205 in a money market account. The account pays 1.9% simple interest annually. If he doesn't add or subtract any money, is it reasonable that Jerome will earn about $100 in simple interest in 4 years? Explain.

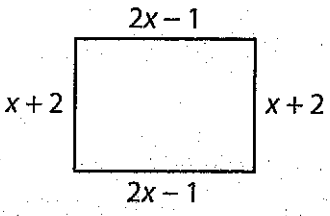
12. Ian used $2\frac{2}{3}$ packages of seeds in 4 gardens. How many packages of seeds did he put in each garden?

1.

7.NS.2

2.

7.EE.1



3.

7.G.2

A) 14, 6, 7

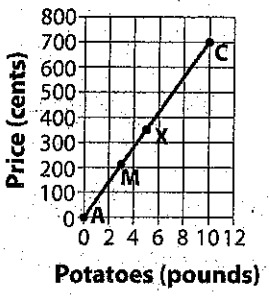
B) 12, 3, 6

C) 13, 6, 5

D) 7, 8, 9

4.

7.RP.2



5.

7.NS.1

A) 3 − 4

B) 4 − 3

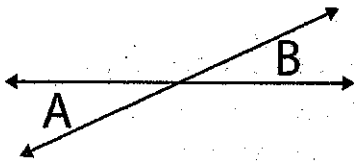
C) 4 + 3

6.

7.NS.3

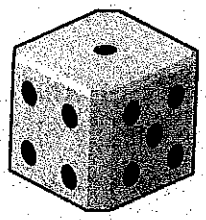
7.

7.G.5



8.

7.SP.5



9.

7.G.4

10.

7.RP.3

11.

7.EE.3

12.

7.RP.1

Lesson #77

1. Use long division to write the fraction $-\frac{3}{4}$ as a decimal.

2. **Adjacent angles share a common side (ray) and a common vertex, but do not overlap. Adjacent angles are side by side.** The adjacent angles shown here are complementary. Give the value of a.

3. Simplify this complex fraction. $\frac{1\frac{1}{2}}{2\frac{1}{5}}$

4. A store has 200 winter coats in inventory. Twenty-five percent of the coats are wool, and $\frac{3}{5}$ are nylon. Is it reasonable that about 25 coats are neither wool nor nylon? Explain.

5. An elephant lost 3 pounds per month for 6 consecutive months. Write an integer to represent the change in the elephant's weight.

6. Find the surface area of the triangular prism.

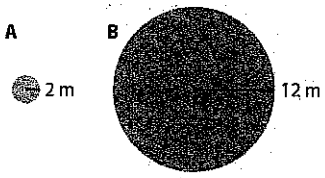
7. Simplify the expression. $h + 4h - 4 + 5h - 8h + 2$

8. **An increase of 100% means that the number will double.** Last week 15 people attended the hiking club excursion. The attendance this week increased 100%. How many attended the hiking club this week?

9. A container holds 3 red marbles, 2 blue marbles, and 1 black marble. What is the probability that Troy will choose a blue or red marble if he reaches into the container without looking inside? Plot the probability on the number line.

10. Hope and Ben each bought movie tickets, and Ben spent $2 on popcorn. Write an expression to represent the amount the two friends spent. Let m = the price of movie tickets.

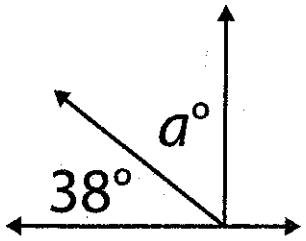
11. Find the combined area of circle A and circle B. Use 3.14 for pi.



12. Student council wants to conduct a survey to find out how many students intend to purchase a school yearbook. Which would produce a systematic random sample?

1. 7.NS.2

2. 7.G.5

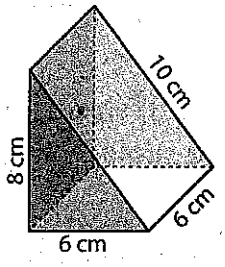


3. 7.RP.1

4. 7.EE.3

5. 7.NS.3

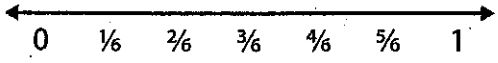
6. 7.G.6



7. 7.EE.1

8. 7.RP.3

9. 7.SP.5



10. 7.EE.2

11. 7.G.4

12. 7.SP.2

A) Survey every tenth student waiting to enter the school building one morning.

B) Survey every friend of the students on the yearbook committee.

C) Randomly select students who purchased a yearbook last year, and survey them.

Lesson #78

1. The chart shows the average daily temperate for 4 days. After Day 1, which day was the warmest?

Day 1	Day 2	Day 3	Day 4
80°	75% of Day 1	$\frac{4}{5}$ of Day 1	0.78 of Day 1

2. The price of Bing cherries can be described by the equation $P = \$2.39n$, where P is the price and n is the number of pounds of cherries. What is the constant of proportionality and what are the coordinates of this point?

3. Solve. $[-36 \div -9] \times -4 = ?$

4. What is the probability of randomly choosing a heart from a regular deck of 52 cards? What is the probability of choosing a spade?

5. The dimensions of a rectangular prism are 3 cm, 5 cm, and 7 cm. Find the volume and the surface area.

6. A circle has an area of 25π cm^2. Find its radius.

7. Henry mows 10 lawns every week and earns \$15.00 per lawn. He puts 50% of his earnings into a savings account. How much money will Henry have in his savings account after three weeks?

8. Two supplementary angles are shown. Give the value of a.

9. Use long division to write the fraction $\frac{5}{6}$ as a decimal.

10. Through a random sample survey, a teacher learns that most seventh grade boys prefer to play strategic board games during indoor recess. What inferences, if any, can the teacher draw about how all students in the school prefer to spend indoor recess?

11. Write an expression to show the perimeter of the rectangle. Find the perimeter if $x = 2$ ft.

12. Milan spent $3\frac{1}{5}$ hours on 4 homework assignments. What is the ratio of hours per assignment?

1. 7.EE.3

2. 7.RP.2

3. 7.NS.3

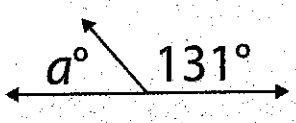
4. 7.SP.5

5. 7.G.6

6. 7.G.4

7. 7.RP.3

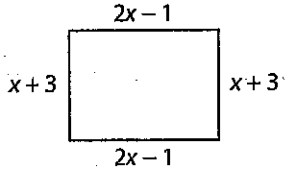
8. 7.G.5



9. 7.NS.2

10. 7.SP.2

11. 7.EE.1



12. 7.RP.1

Lesson #79

1. Olivia and Holly bought ice cream cones, and Holly spent an extra 50¢ for sprinkles. Write an expression to represent how much the two girls spent. Let c equal the cost of the cone.

2. Find the radius of a circle that has an area of 50.24 cm^2. Use 3.14 for pi.

3. Simplify the expression. $6c + 3c + 9 - 3c + 5$
Evaluate the expression when $c = 3$.

4. The temperature in Green Bay was −6 degrees this morning. The temperature dropped 3 more degrees by evening. Write and solve an addition equation.

5. Results of a simple random survey of voters in Betty's home town are shown in the table. Voters were asked to self-identify as Democrat, Republican, or other. Betty knows that there are 40,000 voters in her community, so she estimates that there must be about 20,000 Democrats in the total population. Is Betty's estimate accurate? Explain.

Sample	Democrat	Republican	Other	Total
Group A	25	60	15	100

6. Is it possible to draw a right triangle with an obtuse angle? If so, draw one. If not, write *impossible* in the answer box.

7. Last summer, a dress sold for $125. This summer the same dress is selling for $160. Find the **percent of increase**. Use the formula shown here.

$$\frac{\text{difference between amounts}}{\text{original amount}} \times 100 = \_\_\_\_\ \%\ \text{increase}$$

8. Look at the spinner in the answer box. What is the probability of the spinner landing on an even number?

9. Use long division to write the fraction $\frac{2}{3}$ as a decimal.

10. A regular box of Lucky-Os contains 14 oz of cereal, and the family size contains 15% more. Jamie buys 3 family size boxes and estimates this will be more than 50 oz of cereal. Is Jamie's estimate correct? Explain.

11. Eve went shopping with a $150 gift card. Her purchases totaled $175.30. How much cash did Eve need in addition to her gift card?

12. Simplify this complex fraction. $\frac{\frac{1}{9}}{1\frac{1}{2}}$

1. 7.EE.2

2. 7.G.4

3. 7.EE.1

4. 7.NS.1

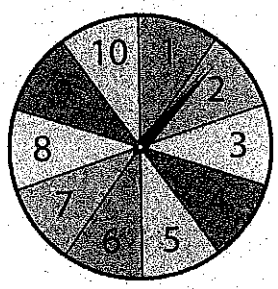
5. 7.SP.2

6. 7.G.2

7. 7.RP.3

$\frac{160-125}{125} = \_\_\_\_ \times 100 = \_\_\_\_$ % increase

8. 7.SP.5



9. 7.NS.2

10. 7.EE.3

11. 7.NS.3

12. 7.RP.1

Lesson #80

1. Use the number line to subtract $2 - (-3)$. To subtract an integer, add its _____.

2. The graph represents earnings from the sale of brownies at the school bake sale. What is the unit rate? Give the coordinates of the point on the graph that correspond to the unit rate.

3. Three brothers drove 250 miles from Cleveland to Cincinnati. Ian drove $\frac{3}{10}$ of the total distance. Ethan drove 32% of the total distance, and Evan drove 0.38 of the distance. Which brother drove the farthest?

4. Solve. $8.5 \div 5 - 0.7 = ?$

5. Two complementary angles are shown. Give the value of a.

6. Look at the spinner in the answer box. What is the probability of the spinner landing on a number greater than 2?

7. Write an expression in simplest form to show the perimeter of the triangle. Find the perimeter when $x = 5$ in.

8. A circle has a diameter of 12 cm. Find its area. Use 3.14 for pi.

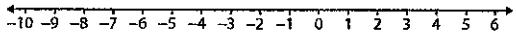
9. Lori mixes $\frac{1}{4}$ cup cocoa powder with $3\frac{3}{4}$ cups of milk to make hot cocoa. What is the ratio of cocoa powder to one cup of milk?

10. Use long division to write the fraction $-\frac{11}{40}$ as a decimal.

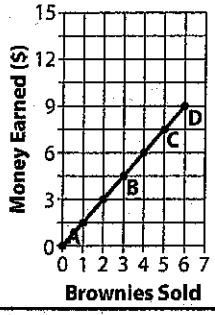
11. A particular substance is worth \$20 per cubic foot. Assume the figure in the box is composed of this substance. What would be its value?

12. In 1973, a dozen eggs cost \$0.78. Twenty years later, the price increased to \$0.85. Find the percent increase for the cost of a dozen eggs. (Write the amount of increase and divide by the original amount.) Round to the nearest whole percent.

1. 7.NS.1



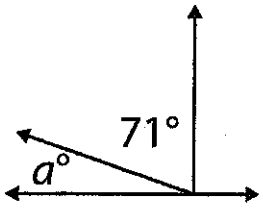
2. 7.RP.2



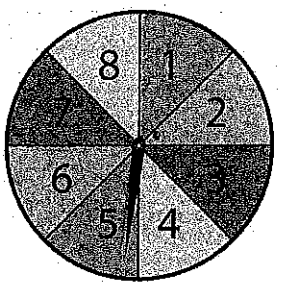
3. 7.EE.3

4. 7.NS.3

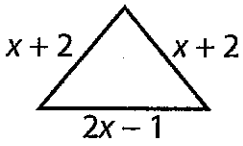
5. 7.G.5



6. 7.SP.5



7. 7.EE.1

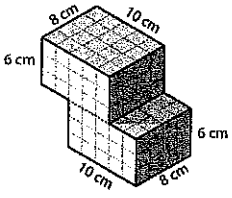


8. 7.G.4

9. 7.RP.1

10. 7.NS.2

11. 7.G.6



12. 7.RP.3

Lesson #81

1. What property does this equation represent? $-16 + 74 = 74 + (-16)$

2. Solve for a. $a - 12 = 56$

3. Find the volume of the rectangular prism.

4. Study the table. Draw an inference about the relationship between the ages of people in the sample group and their interest in reading the business section of the newspaper.

Sample Group (Ages)	Interested in Reading the Business Section	Not Interested in Reading the Business Section	Total
A (11–20)	11	89	100
B (21–30)	47	53	100
C (31–40)	85	15	100

5. Today is Madison's birthday. If \$5.00 were in each of the 6 birthday cards she opened, how much money did she receive?

6. Study the vertical angles. Give the value of k.

7. Which of these is another way to write the expression $4(x + y) + 10$?

8. The team's water container had a leak and 5 mL of water trickled out every 10 minutes. Write an integer to represent the loss of water after 60 minutes.

9. Fresh Mart buys a bushel of apples for \$4.50 and sells it for \$13.50. What is the percent of increase in price? What is the dollar amount of Fresh Mart's profit?

10. Give the value of m.

11. A sack contains only purple, green, and yellow beads. If selected at random, $P(\text{purple}) = \frac{3}{10}$ and $P(\text{green}) = \frac{1}{5}$. What is the probability of selecting a yellow bead? Express the probability as a number between 0 and 1.

12. Expand this expression. $5(2t - 7s)$

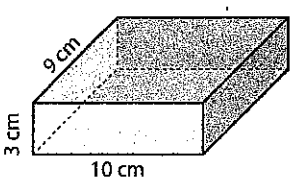
1. 7.NS.1

A) additive inverse property

B) commutative property

2. 7.EE.4

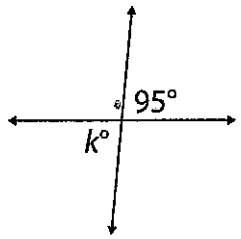
3. 7.G.6



4. 7.SP.2

5. 7.NS.2

6. 7.G.5



7. 7.EE.2

A) $4x + 4y + 10$

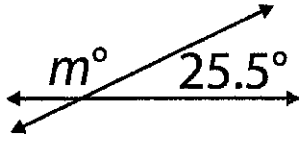
B) $10x + 10y + 10$

C) $4xy + 40$

8. 7.NS.3

9. 7.RP.3

10. 7.G.5



11. 7.SP.5

12. 7.EE.1

Lesson #82

1. Does the data table represent a proportional relationship? If so, give the constant of proportionality. If not, identify the point(s) that are not proportional.

Super Delicious Creamy Mashed Potatoes					
Cream Cheese (oz)	8	16	24	32	40
Potatoes (lbs)	5	10	15	20	25

2. Solve for a. $a + 15 = 36$

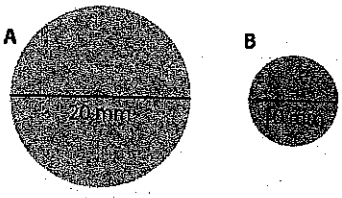
3. $[2 + 6] - 3\frac{5}{7} = ?$

4. Maria has 12 juice boxes whose labels have all fallen off. She knows that 2 boxes contain fruit punch and the rest contain apple juice. Maria chooses a box. Is the probability that the box will contain apple juice impossible, unlikely, likely, or certain? Express the probability as a number between 0 and 1.

5. Five athletes shared the cost of a dinner equally. The dinner was $90 plus 20% for a tip. What amount did each person pay?

6. A company's sales were $58,000 last quarter and $62,000 this quarter. What is the percent of increase in sales? Round the answer to the nearest tenth.

7. Determine the difference in area between circle A and circle B. Use 3.14 for pi.



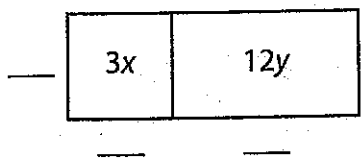
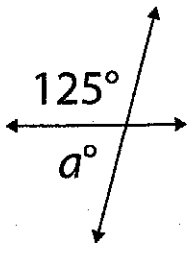
8. John wants to make a pie chart to show the species of trees in a nearby forest, but he can't count all the trees. Which sample would be the most representative? Defend your answer.
   A) the tallest trees visible from the highway
   B) the first fifteen trees John sees when he enters the forest
   C) a random selection of trees from four different regions of the forest

9. The areas of two adjoining rectangles are given. Let the width of the rectangles be the GCF of the two areas. Find the length. Fill in the blanks. See the *Help Pages*.

10. Each time Rita spends $50 at the grocery store, she earns 0.10 off her gas purchases. If Rita's account shows 0.90 available toward her gas purchases, how much has she spent at the grocery store? Write and solve an equation using integers and division.

11. Study the supplementary adjacent angles. What is the value of a?

12. Write an expression to represent the sum of three consecutive even numbers.

1. 7.RP.2	2. 7.EE.4
3. 7.NS.3	4. 7.SP.5
5. 7.EE.3	6. 7.RP.3
7. 7.G.4	8. 7.SP.1
9. 7.EE.1 	10. 7.NS.2
11. 7.G.5 	12. 7.EE.2

Lesson #83

1. Solve for n. $48 = -8n$

2. During her first semester at college, Leah earned a 3.25 grade point average. During her second semester, she earned a 3.40. What was the percent of increase in Leah's GPA? Round to the nearest tenth.

3. Draw a quadrilateral with one set of parallel sides and exactly two right angles.

4. Asher mowed 6 lawns and earned $10.00 per lawn. Then he paid his mother the $23 that he owed her. How much of the lawn money did Asher have after paying his mother back?

5. Simplify this complex fraction. $\dfrac{\frac{2}{9}}{\frac{3}{4}}$

6. Find the area of a circle that has a diameter of 14 cm. Use $\frac{22}{7}$ for pi.

7. Jamal is paid 9% commission on his annual insurance sales of $96,500. If he gets his commission in three payments, how much will the check be each time?

8. Describe a real world situation that shows that −5 and +5 equal zero.

9. Random sample surveys of voters were taken in three different regions of a county that has a voter population of 55,000. On average, 42 out of 100 voters support Issue 7, and 58 oppose it. Estimate the number of voters in the county who support the issue.

Sample Group	Yes	No	Total
A	39	61	100
B	45	55	100
C	42	58	100

10. Multiply. Write the product in simplest form. $-\frac{5}{6} \times 1\frac{1}{3} = ?$

11. Study the supplementary angles. What is the value of a?

12. In the answer box, color the sections of the spinner: 2 red, 1 green, 3 blue, 1 orange, and 1 yellow. What P(blue)?

1. 7.EE.4

2. 7.RP.3

3. 7.G.2

4. 7.NS.3

5. 7.RP.1

6. 7.G.4

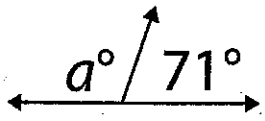
7. 7.EE.3

8. 7.NS.1

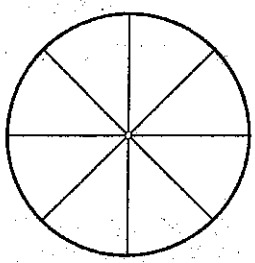
9. 7.SP.2

10. 7.NS.2

11. 7.G.5



12. 7.SP.5



Lesson #84

1. Use long division to write the fraction $-\frac{3}{10}$ as a decimal.

2. Study the angles. What is the value of a?

3. There are 40 choir students in the school musical. Forty percent of them are in sixth grade and $\frac{2}{5}$ of them are in eighth grade. How many choir students are not in sixth or eighth grade?

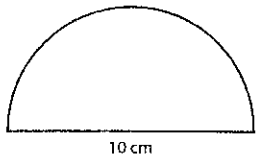
4. Sales in 2011 were $250,000, and in 2012, they were $285,000. What is the percent increase in annual sales?

5. Solve for a. $\frac{a}{12} = -4$

6. Solve. $8 - 2 - 36 \div 6 = ?$

7. Miranda has a square garden. She wants to add a one-foot rock border. The measure of one side of the garden is s. Write an expression to represent the perimeter of the border.

8. A semicircle has a diameter of 10 centimeters. Find its perimeter.

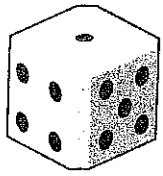


9. Simplify the expression. $5a - 3 + 8a - 1$ Evaluate the expression when $a = 6$.

10. Which two have the same value? Give the sum or difference.

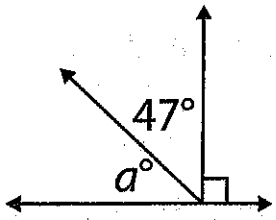
11. The relationship between the number of apples (a) and the cost in dollars (c) is represented by the equation $c = 0.25a$. Give the unit rate and constant of proportionality.

12. What is the probability of rolling either a 1 or a 6 with a regular number cube?



1. 7.NS.2

2. 7.G.5



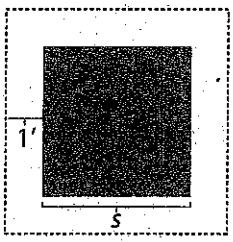
3. 7.EE.3

4. 7.RP.3

5. 7.EE.4

6. 7.NS.3

7. 7.EE.2



8. 7.G.4

9. 7.EE.1

10. 7.NS.1

A) $-11 + 9$

B) $-9 + 11$

C) $11 - 9$

D) $9 + 11$

11. 7.RP.2

12. 7.SP.5