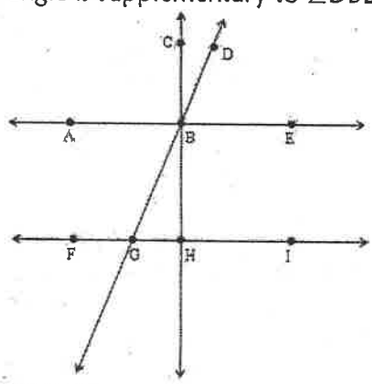
Sheet 1

1. **7.G.2.5**
Which angle is supplementary to $\angle DBE$?



A. $\angle DBC$
B. $\angle DBA$
C. $\angle EBH$
D. $\angle BGH$

2. **7.RP.1.3**
Which items are discounted less than **15%**? Select all that apply.

- ☐ **A.** $199.99 smartphone on sale for $167.99
- ☐ **B.** $28,100 car on sale for $24,750
- ☐ **C.** $58 jeans on sale for $50
- ☐ **D.** $1.99 song download on sale for $1.75
- ☐ **E.** $129 pair of shoes on sale for $105

3. **7.RP.1.2**
At Juicy Deals grocery store, 4 oranges cost $7.00. You can buy 7 oranges for $12.50.
Is the relationship between the number of oranges and their price proportional?

4. **7.RP.1.3**
Gail can use her 12% employee discount once a week. Last Sunday, she bought a $45 sweater at $\frac{1}{3}$ off and used her discount on a suit priced at $140. On which purchase did she save more money?

5. **7.RP.1.3**
Mollie has $550 in a savings account that earns 3% simple interest each year. How much will be in her account in 10 years?

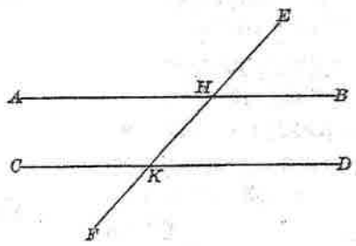
6. **7.RP.1.1**
Laura jogs at a rate of 2 miles every $\frac{2}{5}$ hour. What is her unit rate?

A. 0.4 mi/hr
B. 2 mi/hr
C. 5 mi/hr
D. 10 mi/hr

7. **7.EE.1.2**
Pajae has a discount card that reduces the price of her grocery bill in a certain grocery store by 5%. If c represents the cost of Pajae's groceries, which expression represents Pajae's grocery bill?

A. $0.05c$
B. $0.95c$
C. $c - 0.05$
D. $c - 0.95$

8. **7.G.2.5**
In the figure below, $m\angle EHB = (4x - 2)°$ and the $m\angle AHK = 48°$. What is the value of x?



9. **7.RP.1.2**
Brenda recorded the amount of time it took to cook potatoes in a microwave.

Potato Cooking Times	
Number of Potatoes	Time (in minutes)
2	10
3	15
5	25

Are the data proportional? How do you know?

10. **7.SP.3.6**
A number cube has the numbers 1-6 written on its sides. The number cube is rolled 300 times. Which of the following would you predict to happen? Select all that apply.

- ☐ **A.** A 4 would be rolled about 50 times.
- ☐ **B.** A 6 would be rolled about 50 times.
- ☐ **C.** A 3 would be rolled about 20 times.
- ☐ **D.** The result would be an even number about 50 times.
- ☐ **E.** The result would be an even number about 150 times.
- ☐ **F.** The result would be greater than 3 about 150 times.

11. **7.EE.2.3**
A set of silverware contains 30 pieces. The set contains only spoons, forks, and knives. It contains the same number of spoons and forks and twice as many spoons as knives. How many forks are there in the set?

12. **7.SP.3.7**
Jason is tossing a fair coin. He tosses the coin ten times and it lands on heads eight times. If Jason tosses the coin an eleventh time, what is the probability that it will land on heads?

13. **7.G.1.3**
Which of the following could ***not*** be a cross section of a rectangular prism?

A. rectangle
B. circle
C. parallelogram
D. triangle

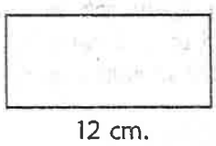
Sheet 2

1. **7.G.1.2**
Which choice shows three lengths that ***cannot*** be the lengths of the three sides of a triangle?

A. 2 cm, 8 cm, 8 cm
B. 2 cm, 3 cm, 6 cm
C. 4 cm, 5 cm, 7 cm
D. 5 cm, 6 cm, 9 cm

2. **7.G.1.1**
Manny drew a picture of a cruise ship the he saw docked at Port Canaveral.
He used the scale ¼ in. : 32 ft.
If his picture is 9.25 inches long, what is the length, in feet, of the actual cruise ship?

3. **7.G.1.1**
The figure below is a scale drawing of a rectangular ball room. The scale is 2 cm:4 m.



What is the area of the actual room?

A. 72 m^2
B. 144 m^2
C. 288 m^2
D. 576 m^2

4. **7.G.2.4**
Leslie measures around his bike wheel. Then he measures its diameter. He divides the circumference by the diameter. What was the quotient?

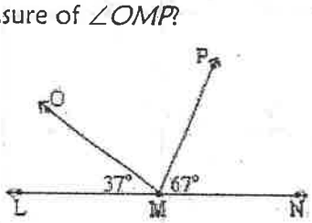
A. 2
B. 3
C. 3.14
D. π

5. **7.G.1.2**
Nicholas drew a triangle with 45°, 35°, and 100° angles.
Is there another triangle with the same three angles but different side lengths?

6. **7.G.1.1**
The scale of a model train is 1 inch to 13.5 feet. One of the cars of the model train is 5 inches long. What is the length, in feet, of the actual train car?

A. 67.5 ft.
B. 32.4 ft.
C. 14.5 ft.
D. 2.7 ft.

7. **7.G.2.5**
$\angle LMN$ is a straight angle. What is the measure of $\angle OMP$?



8. **7.G.2.4**
Carol walks a circular path with a radius of 280 yards at the local park. How far does she walk? (Use $\frac{22}{7}$ for π.)

9. **7.G.1.3**
Which of the following three dimensional figures can produce a triangle when sliced vertically by a plane? Select all that apply.

☐ A. 
☐ B. 
☐ C. 
☐ D. 
☐ E. 

10. **7.RP.1.1**
Ms. Robinson gave her class 12 minutes to read. Carrie read 5 ½ pages in that time. At what rate, in pages per hour, did Carrie read?

A. $1\frac{1}{10}$
B. 22
C. $27\frac{1}{2}$
D. 66

11. **7.RP.1.2**
The table shows how much a store charges for certain numbers of pencils.

Number of pencils (p)	Cost (c)
4	$0.72
7	$1.26
12	$2.16

Based on the table, which equation could be used to calculate the cost, c, of any number of pencils, p?

A. $c = 0.09p$
B. $c = 0.18p$
C. $c = 0.54p$
D. $c = 0.72p$

12. **7.RP.1.3**
Two sporting goods stores are having discount sales on basketballs.

- At Rick's Sporting Goods, a basketball is on sale for 20% off the regular price of $24.95.
- At Sports Expert, the same kind of basketball is on sale for 25% off the regular price of $25.80.

Which store has the better deal?

Sheet 3

1. **7.NS.1.3**
The chart below displays the daytime high and the nighttime low temperatures for one Friday in Anchorage, Alaska.

Friday Daytime High	-7°F
Friday Nighttime Low	-16°F

How many degrees did the temperature drop from the daytime high to the nighttime low?

2. **7.NS.1.2**
Which of the following are equivalent to $-\frac{5}{8}$?

- A. -0.625
- B. $\frac{-5}{8}$
- C. $\frac{-5}{-8}$
- D. $-0.8\overline{3}$
- E. $\frac{5}{-8}$

3. **7.G.1.2**
Place a check mark in the box next to each set of lengths that could be the sides of a triangle. Select all that apply

- A. 3 feet, 4 feet, and 5 feet
- B. 1 meter, 7 meters, and 10 meters
- C. 1.5 inches, 1.5 inches, and 2.5 inches
- D. 7 centimeters, 7 centimeters, and 7 centimeters
- E. 6 miles, 6 miles, and 12 miles

4. **7.G.1.3**
A square pyramid is shown below.

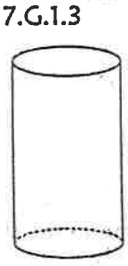
Which shapes could be formed by slicing the square pyramid by a plane? Select all that apply.

- A. circle
- B. triangle
- C. rectangle
- D. trapezoid
- E. square

5. **7.G.1.3**
Which of the following could be a horizontal cross-section of a cylinder?

- A. hexagon
- B. triangle
- C. circle
- D. octagon

6. **7.G.1.3**



A cylinder is shown to the left.

Describe how to pass a plane through the figure so that the cross section formed in the plane is a rectangle.

7. **7.EE.2.3**
Martha buys tennis rackets for $45. She marks them up 25% before selling them. What is the retail price of the tennis racket?

- A. $11.25
- B. $54.00
- C. $56.25
- D. $112.50

8. **7.EE.2.3**
Donte bought a computer that was 20% off the regular price of $1,080. If an 8% sales tax was added to the cost of the computer, what was the total price Donte paid for it?

9. **7.EE.2.4**
Solve for x.
$0.5x + 78.2 = 287$

- A. $x = 104.4$
- B. $x = 417.6$
- C. $x = 495.8$
- D. $x = 730.4$

10. **7.EE.2.3**
Delia earns $10.50 per hour working at a restaurant. On Friday she spent $1\frac{3}{4}$ hours cleaning, $2\frac{1}{3}$ hours doing paperwork, and $1\frac{5}{12}$ hours serving customers. What were Delia's earnings?

- A. $46.97
- B. $47.25
- C. $53.00
- D. $57.75

11. **7.EE.1.2**
The population of a city is expected to increase by 7.5% next year. If p represents the current population, which expression represents the expected population next year?

- A. $1.75p$
- B. $1.075p$
- C. $p + 0.075$
- D. $1 + 0.075$

12. **7.G.1.2**
Can a triangle have more than one obtuse angle? Explain.

13. **7.EE.2.3**
The price of mailing a small package is $0.32 for the first ounce and $0.21 for each additional ounce. Simone paid $1.16 to mail her package. How much did it weigh?

14. **7.EE.1.2**
Patrick is buying a new pair of shoes. The expression shown below represents the sales tax on the price of the shoes, s.

$0.06s$

By what number can Patrick multiply the price of the shoes, s, to determine the total amount he will need to pay for them, including the tax?

Sheet 4

1. **7.G.2.6**
Which of the following could be the dimensions of a rectangular prism with a volume of 60 m^3? Select all that apply.

- ☐ A. 1 m × 1 m × 60 m
- ☐ B. 3 m × 4 m × 5 m
- ☐ C. 4 m × 15 m × 2 m
- ☐ D. 3 m × 4 m × 12 m
- ☐ E. 1 m × 6 m × 10 m
- ☐ F. 5 m × 6 m × 2 m

2. **7.G.2.4**
The floor of Cara's living room is 10 feet by 14 feet. What is the area, in square feet, of the largest circular rug that can fit in Cara's living room? (Use 3.14 to approximate π.)

3. **7.EE.1.1**
An expression is shown below.

$$20x + 35y$$

What is the greatest common factor of the terms $20x$ and $35y$?

4. **7.NS.1.1**
Which of the following expressions are equivalent to a value of -6?

- ☐ A. 0 – 6
- ☐ B. 0 – (-6)
- ☐ C. 12 – 18
- ☐ D. -7 – (-1)
- ☐ E. -3 – 9

5. **7.NS.1.2**
What is the value of the expression shown below?

(-1.25)(-0.5)(4)

6. **7.EE.1.2**
Ray is buying some ginger roots to brew some fresh ginger ale. The price of the ginger roots is g, and Ray has a coupon for 10% off.
Match the expressions to their meanings below.

	Price of the ginger roots without the coupon	*Money Ray saves by using the coupon*	Price of the ginger after using the coupon	*None of these*
$0.9g$				
$g - 0.1$				
g				
$g - 0.1g$				
$0.1g$				
$1.1g$				

7. **7.NS.1.3**
A ski lodge keeps records of the snow falling and melting. The first day, there were 18 inches. The second day, it melted 2 inches. The next day it melted 4 inches. The next day 8 inches of snow fell. How many inches are there now?

8. **7.NS.1.2**
Which of the following expressions are equivalent to $-\frac{2}{3}$? Select all that apply.

- ☐ A. $-\frac{1}{9} \times 6$
- ☐ B. $-15 \div 10$
- ☐ C. $12 \div -18$
- ☐ D. $-\frac{3}{4} \div \frac{1}{2}$
- ☐ E. $-\frac{8}{9} \times \frac{3}{4}$

9. **7.NS.1.1**
What is the value of the expression shown below?

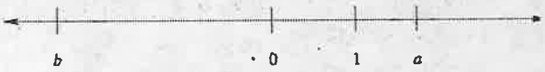
$$-7\frac{3}{4} + 3\frac{1}{2}$$

10. **7.NS.1.3**
In Antarctica the temperature can change drastically between day and night. At 3:00 pm, the temperature was a chilly 7°C. At that time, it began to drop at a steady rate of 6°C every hour.
What was the temperature at 7:00 pm?

11. **7.NS.1.2**
Hannah says that $-\frac{5}{4}$ has the same quotient as $\frac{5}{-4}$. Do you agree? Why or why not?

12. **7.NS.1.3**
In Antarctica the temperature can change drastically between day and night. At 3:00 pm, the temperature was a chilly 7°C. At that time, it began to drop at a steady rate of 6°C every hour.
At what time was the temperature -5°C?

13. **7.NS.1.1**
A number line is shown below. The numbers 0 and 1 are marked on the line, as are two other numbers a and b.



Which of the following expressions represent a negative value? Select all that apply.

- ☐ A. $a - 1$
- ☐ B. $-b$
- ☐ C. $a + b$
- ☐ D. $a - b$
- ☐ E. $-a$

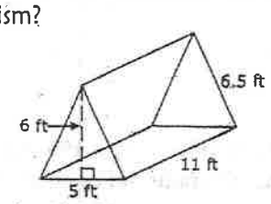
14. **7.EE.1.1**
Rewrite the expression below as the sum of one constant and one variable term

$$2(x - 4) + 6x - 5x \cdot 3$$

15. **7.NS.1.3**
A submarine is 36 feet below sea level. It ascends 16 feet. What is the submarine's current position?

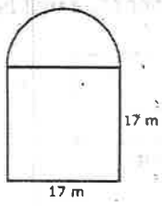
Sheet 5

1. **7.G.2.6**
What is the volume of this triangular right prism?



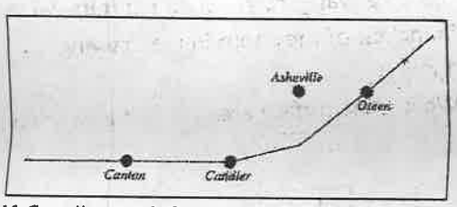
A. 165 ft³
B. 330 ft³
C. 1,073 ft³
D. 2,145 ft³

2. **7.G.2.4**
A sketch of Lisa's yard is shown below.



What is the approximate area of Lisa's yard?
A. 316 m²
B. 402 m²
C. 516 m²
D. 743 m²

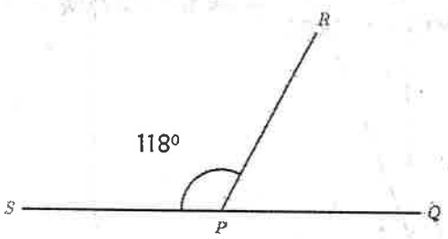
3. **7.G.1.1**
On the map below, ¼ inch represents one mile. Candler, Canton, and Oteen are three cities on the map.



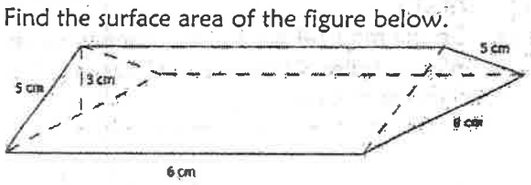
If Candler and Oteen are 3 ½ inches apart on the map, what is the actual distance between Candler and Oteen in miles?

4. **7.G.2.4**
The circumference of a circle is 11π inches. What is the area, in square inches, of the circle? Express your answer in terms of π.

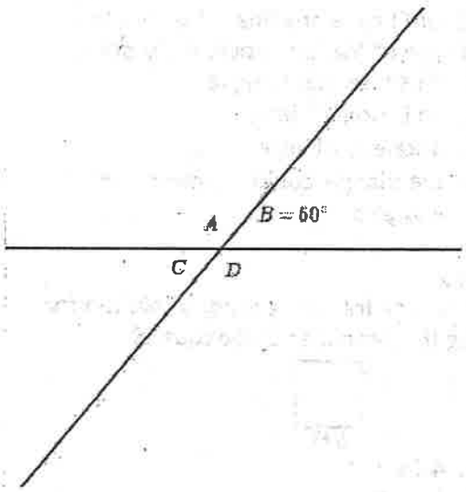
5. **7.G.2.5**
What is the measure of $\angle QPR$? Explain how you know.



6. **7.G.2.6**
Find the surface area of the figure below.

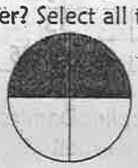


7. **7.G.2.5**
What can you conclude from the picture shown below? Select all that apply.



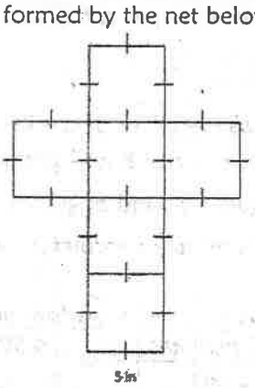
A. $m\angle D = 130°$
B. $\angle B$ and $\angle C$ are vertical angles.
C. $\angle B$ and $\angle C$ are adjacent angles.
D. $\angle B$ and $\angle D$ are adjacent angles.
E. $\angle B$ and $\angle A$ are complementary angles.

8. **7.G.2.5**
There are two slices of pizza left. The original pizza had four slices of equal size. What kind of angles are the two slices together? Select all that apply.

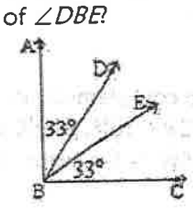


A. complementary angles
B. supplementary angles
C. adjacent angles
D. vertical angles
E. corresponding angles

9. **7.G.2.6**
What is the volume of the figure that can be formed by the net below?



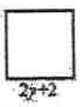
10. **7.G.2.5**
$\angle ABC$ is a right angle. What is the measure of $\angle DBE$?



1. Kelly's teacher asked her to draw a triangle that doesn't have any lines of symmetry. What type of triangle should Kelly draw?

A. an equilateral triangle
B. an isosceles triangle
C. a scalene triangle
D. the triangle could be scalene or isosceles

2. **7.EE.1.2**
Which of the following is not a solution for finding the perimeter of the square?



A. $4(2y + 2)$
B. $8y + 8$
C. $(2y + 2) + (2y + 2) + (2y + 2) + (2y + 2)$
D. $4y + 4$

3. **7.EE.2.3**
Damien has $25 he can spend on art supplies. The table shows some items he would like to buy.

Item	Cost
Brush	$2.40
Pad of paper	$5.25
Pastel crayon	$3.97
Watercolor paint	$2.75

Select a combination of supplies Damien could buy for $25 or less. Select all that apply.

- ☐ A. 1 pad of paper and 5 pastel crayons
- ☐ B. 2 brushes and 7 watercolor paints
- ☐ C. 2 pads of paper and 6 brushes
- ☐ D. 3 pastel crayons and 4 watercolor paints
- ☐ E. 2 pads of paper and 6 watercolor paints

4. **7.EE.2.3**
The table shows the prices of candies at Crystal's Candies. Victor buys $\frac{2}{3}$ pound of white chocolates, $\frac{1}{2}$ pound of gummy bears, and $1\frac{1}{4}$ pounds of dark chocolates for a party.

Type	Cost (per pound)
White Chocolates	$4.50
Gummy Bears	$2.40
Dark Chocolates	$6.00

How much did Victor spend on candy for the party?

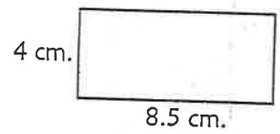
5. **7.G.2.5**
Angles T and V are complementary. Angle T has a measure of $(2x + 10)°$. Angle V has a measure of $48°$. What is the value of x?

A. 16°
B. 19°
C. 26°
D. 42°

6. **7.G.2.4**
The circumference of a circle is 188 meters. What is the approximate radius of the circle?

A. 30 meters
B. 60 meters
C. 94 meters
D. 128 meters

7. **7.G.1.1**
Tara will draw a scale model of the garden she wants to plant. Her scale will be 1 cm. = 2.5 ft.

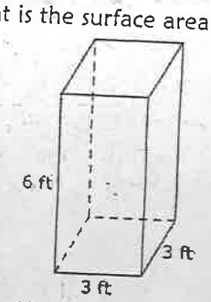


What will be the actual dimensions of Tara's garden?

A. 1.6 ft. by 3.4 ft.
B. 4 ft. by 34 ft.
C. 8 ft. by 34 ft.
D. 10 ft. by 21.25 ft.

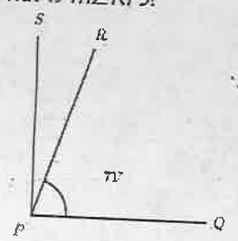
8. **7.G.1.1**
Brett made a scale drawing of a rectangular room in his house. The actual length of the room is $12\frac{4}{5}$ ft. The scale used to make the drawing was $\frac{1}{4}$ in. = 1 ft. What is the length, in inches, of the room in the drawing?

9. **7.G.2.6**
What is the surface area of the figure below?

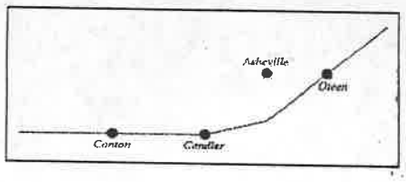


A. 12 ft²
B. 36 ft²
C. 54 ft²
D. 90 ft²

10. **7.G.2.5**
If $\angle QPS$ is a right angle and $m\angle QPR = 71°$, what is $m\angle RPS$?



11. **7.G.1.1**
On the map below, ¼ inch represents one mile. Candler, Canton, and Oteen are three cities on the map.



If the distance between the real towns of Candler and Canton is 9 miles, how far apart are Candler and Canton on the map?

1. A bag contains 100 marbles, some red and some purple. Suppose a student, without looking, chooses a marble out of the bag, records the color, and then places that marble back in the bag. The student has recorded 9 red marbles and 11 purple marbles. Using these results, predict the number of red marbles in the bag.

2. **7.SP.3.5**
The values below represent the probabilities of events A, B, C, D, and E.
Which events have a probability that indicates the event is unlikely to happen, but not impossible? Select all that apply.

- ☐ A. $P(A) = 0\%$
- ☐ B. $P(B) = 50\%$
- ☐ C. $P(C) = 0.2$
- ☐ D. $P(D) = 0.87$
- ☐ E. $P(E) = \frac{1}{5}$
- ☐ F. $P(F) = \frac{4}{17}$

3. **7.SP.3.6**
Each of the 20 students in Mr. Anderson's class flipped a coin ten times and recorded how many times it landed on tails. How many tails would a student expect to see out of ten tosses?

4. **7.SP.3.5**
Allie and Joe are playing a game with a spinner. The spinner is divided into four equal sections. Two of the sections are orange, one is purple, and one is white. When it's Allie's turn, she spins the spinner. What is the probability that the spinner lands on red?

5. **7.SP.3.7**
Tim has a 6-sided die that contains the numbers 1-6 on each of its sides. Tim rolls the die 48 times. About how many times would you expect Tim to roll a 3?

- A. 5 times
- B. 6 times
- C. 7 times
- D. 8 times

6. **7.SP.3.8**
How many different setting combinations are there on a washing machine with the following options?

- regular, delicate, or extra dirty
- hot, warm, or cold water
- regular rinse or extra rinse.

7. **7.EE.2.3**
You are going on a road trip over a distance of 3000 miles with three friends. The car consumes 6 gallons of gas per 150 miles and gas costs $1.20 per gallon.
If you want to split the cost of gas evenly between the four of you, how much should each of you pay?

8. **7.SP.3.8**
A bag contains 4 red marbles and 2 white marbles. A marble is selected, returned to the bag, and then another marble is selected.
Find P(red, then white).

Sheet 1

Sheet 7

9. **7.SP.3.5**
Tyler placed six number tiles labeled 3, 8, 12, 15, 19, and 22 in a box. He picks one of the numbers from the box without looking. What is the probability Tyler will pick a tile labeled with an even number?

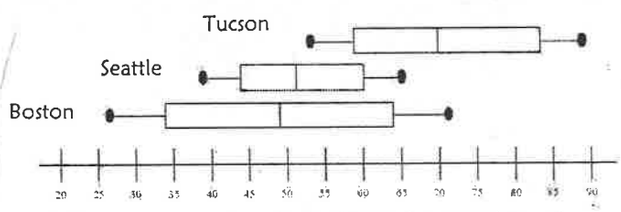
- A. $\frac{2}{3}$
- B. $\frac{1}{2}$
- C. $\frac{1}{3}$
- D. $\frac{1}{6}$

10. **7.SP.1.1**
Each of the samples below is randomly selected from a company with 320 employees. Choose which samples are representative samples for the company. Select all that apply.

- ☐ A. 25 employees on the company e-mail list
- ☐ B. 25 employees with 10 years of service or more
- ☐ C. 25 employees as they begin their shifts at 3:00 pm
- ☐ D. 25 employees at a company-wide assembly
- ☐ E. 25 employees from the human resources department

11. **7.SP.1.2**
A department store receives a shipment of 1,500 dishes. Out of a random sample of 10 dishes, 2 are broken. How many dishes would you expect to be broken in the entire shipment?

12. **7.SP.2.3**
The average daily temperature for each month of the year of three cities is shown below.



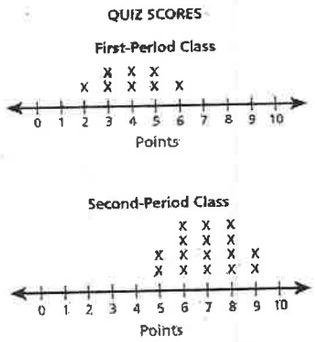
What can you conclude from the overlap of these data?

13. **7.EE.2.4**
For her cell phone plan, Jane pays $30 per month plus $0.05 per text. She wants to keep her bill under $60 per month. How many texts, t, can Heather send each month while staying within her budget?

14. **7.SP.1.2**
Sixty people are in line for a show. Starting with the 1st person, you ask every 5th person if they bought their ticket in advance. Nine people say yes. Based on the sample, how many people bought tickets in advance?

15. **7.G.1.2**
Can you draw an isosceles triangle with only one 80° angle. Is this the only possibility or can another triangle be drawn that will meet these conditions?

1. Ms. Flynn made the line plots below to compare the quiz scores for her first-period math class and her second-period math class. She gave the same quiz to each class.



What conclusion can Ms. Flynn make about the performance of her first- and second-period classes?

A. The first-period class scores had a greater range than the second-period class scores.
B. The second-period class scores had a greater mean absolute deviation than the first-period class scores.
C. The first-period class had a higher median score than the second-period class.
D. The second-period class scores had a higher mean than the first-period class scores.

2. **7.EE.1.2**
Phillip bought a used car for x dollars. One year later the value of the car was $0.88x$. Which expression is another way to describe the change in the value of the car?

A. 0.12% decrease
B. 0.88% decrease
C. 12% decrease
D. 88% decrease

3. **7.G.1.3**
A triangular right prism is cut perpendicular to the base. What is the shape of the cross section?

A. hexagon
B. rectangle
C. trapezoid
D. triangle

4. **7.G.1.2**
A triangle has one side which is 2 meters long and another side which is 5 meters long. Write a value that could be the length of the third side, in feet.

5. **7.EE.2.3**
Max is taking a cab in New York City. The fare is calculated as a base charge of $3.00 plus an additional $2.00 per mile traveled. It is also customary to leave a $2 tip.
If Max wants to spend exactly $20, how many miles can he travel?

6. **7.SP.3.7**
If Zoey has a bag of marbles containing 18 red marbles, how many blue marbles should she add to the bag so that the probability of her drawing a blue marble from the bag is $\frac{1}{4}$?

S H E E T 8

7. **7.SP.3.8**
Jerry will roll a number cube numbered 1-6 twice. What is the probability of rolling an even number, then the number 3?

A. $\frac{1}{12}$
B. $\frac{1}{6}$
C. $\frac{1}{4}$
D. $\frac{2}{3}$

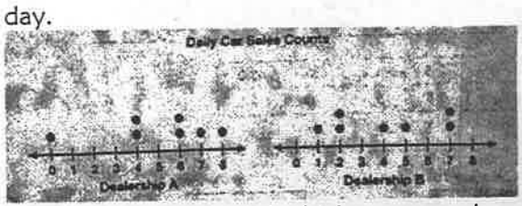
8. **7.SP.3.6**
An owner of a small store knows that in the last week 54 customers paid with cash, 42 paid with a debit card, and 153 paid with a credit card. Based on the number of customers from last week, which fraction is closest to the probability that the next customer will pay with cash?

A. $\frac{1}{5}$
B. $\frac{1}{2}$
C. $\frac{1}{3}$
D. $\frac{1}{4}$

9. **7.SP.3.5**
The local weather report states that there is a 70% chance of rain today.
How likely is it to rain?

A. certain
B. likely
C. neither likely nor unlikely
D. unlikely

10. **7.SP.2.4**
For one week, two car dealerships keep track of the number of cars they sell each day.



Which dealership had the higher mean sales account over the entire week?

11. **7.SP.3.7**
Mila has a bag filled with marbles. In which situations would the probability of Mila drawing a blue marble from the bag be $\frac{1}{3}$?
Select all that apply.

☐ A. A bag with 3 blue marbles.
☐ B. A bag with 30 blue, 15 green, and 45 orange marbles.
☐ C. A bag with 50 red, 30 blue, 10 black, and 10 purple marbles.
☐ D. A bag with 1 blue and 3 yellow marbles.
☐ E. A bag with 11 green, 13 red, and 12 blue marbles.

12. **7.SP.3.6**
If a fair six-sided die is rolled 700 times, approximately how many times can we reasonably expect to roll a 1 or a 2?