

(Grade 7)
Washington

**2018
Mathematics Test
Session 1**

Grade 7

The circumference of a circle is 15π centimeters. What is the area of the circle in terms of π ?

A $7.5\pi \text{ cm}^2$

B $15\pi \text{ cm}^2$

C $56.25\pi \text{ cm}^2$

D $225\pi \text{ cm}^2$

A spinner is divided into four colored sections that are not of equal size: red, blue, purple, and orange. The arrow on the spinner is spun several times.

SPINNER RESULTS

Color	Number of Times
Red	15
Blue	24
Purple	12
Orange	9

The table below shows the lowest temperature, in degrees Fahrenheit, on each of 5 days for a city.

LOWEST DAILY TEMPERATURES

Day	Temperature(°F)
Monday	-36°
Tuesday	-25°
Wednesday	12°
Thursday	-3°
Friday	18°

What is the mean lowest temperature, in degrees Fahrenheit, in the city for those 5 days?

- A -18.8°
- B -6.8°
- C 6.8°
- D 18.8°

Verda used a sensor to measure the speed of a moving car at different times. At each time, the sensor measured the speed of the car in both miles per hour and kilometers per hour. The table below shows her results.

RECORDED SPEEDS

Speed (miles per hour)	Speed (kilometers per hour)
11.0	17.699
26.0	41.834
34.0	54.706

Bonnie deposits \$70.00 into a new savings account.

- The account earns 4.5% simple interest per year.
- No money is added or removed from the savings account for 3 years.

What is the total amount of money in her savings account at the end of the 3 years?

- A \$9.45
- B \$79.45
- C \$94.50
- D \$164.50

Three classes at a junior high school raised money to buy new computers.

- Ms. Moore's class raised \$249.00.
- Ms. Aguilar's class raised \$396.62 more than Ms. Moore's class.
- Mr. Barry's class raised \$430.43 less than Ms. Aguilar's class.

What is the total amount of money raised by all three classes?

- A \$215.19
- B \$464.19
- C \$1,076.05
- D \$1,109.81

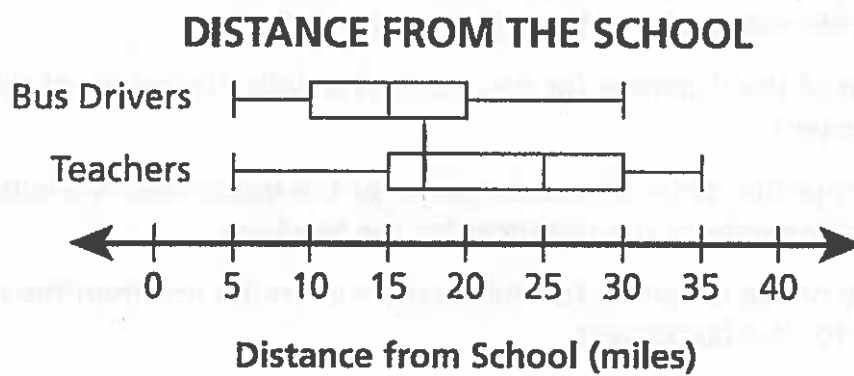
Lea wants to save money on a new computer. At the store near her, the computer she wants is listed at a regular price of \$400.00.

- On Saturday, the store will have a sale and discount the computer by 30%.
- Shoppers who buy a computer that same Saturday before 9:00 a.m. will also receive an additional 10% off the sale price.

How much will Lea pay, without tax, when she buys the computer that Saturday before 9:00 a.m.?

- A \$148.00
- B \$160.00
- C \$240.00
- D \$252.00

A principal gathered data about the distance, in miles, that his teachers and bus drivers live from the school. The box plots below show these data.



At midnight, the temperature was -8°F . At noon, the temperature was 23°F . Which expression represents the increase in temperature?

A $-8 - 23$

B $|-8| - 23$

C $-8 - |23|$

D $|-8 - 23|$

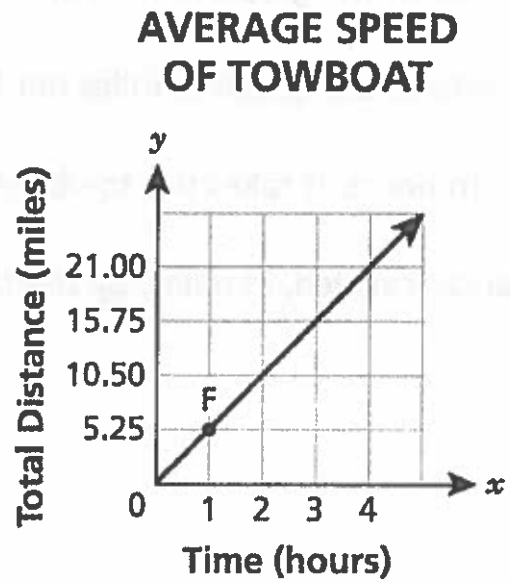
Amanda surveyed 13 students in her class about their heights in inches. Her data are listed below.

52, 53, 55, 55, 56, 57, 58, 58, 59, 59, 59, 62, 65

Which box plot correctly displays her data?



The graph below shows the total distance, in miles, traveled by a towboat over time, in hours.



A computer program selects blue, red, or green as the background color each time the program is used.

- The program was used 45 times on the same computer in one week.
- Of those 45 times, a blue background appeared 12 times and a red background appeared 21 times.

Based on this information, which statement about the likelihood of the green background appearing the next time the program is used is true?

- A Green is just as likely as red or blue to appear.
- B Green is just as likely as blue to appear, but not as likely as red.
- C Green is not as likely as red or blue to appear.
- D Green is not as likely as blue to appear, but is as likely as red.

Which number represents the probability of an event that is very likely to occur?

- A 0.12
- B 1.3
- C 0.89
- D 0.09

Nick is making bread dough.

- The recipe requires $\frac{3}{4}$ cup of flour and $1\frac{1}{8}$ teaspoons of salt.
- Nick wants to make the recipe using 1 cup of flour.

To maintain the ratio, how much salt is required when 1 cup of flour is used?

- A $\frac{27}{32}$ teaspoon
- B $\frac{2}{3}$ teaspoon
- C $1\frac{1}{2}$ teaspoons
- D $1\frac{7}{8}$ teaspoons

Josh has a rewards card for a movie theater.

- He receives 15 points for becoming a rewards card holder.
- He earns 3.5 points for each visit to the movie theater.
- He needs at least 55 points to earn a free movie ticket.

Which inequality can Josh use to determine x , the minimum number of visits he needs to earn his first free movie ticket?

- A $55 \geq 3.5x + 15$
- B $55 \geq 15x + 3.5$
- C $55 \leq 3.5x + 15$
- D $55 \leq 15x + 3.5$

Howard has a scale model of the Statue of Liberty.

- The model is 15 inches tall.
- The scale of the model to the actual statue is 1 inch : 6.2 meters.

Which equation can Howard use to determine x , the height in meters, of the Statue of Liberty?

A $15x = 6.2$

B $6.2x = 15$

C $\frac{1}{6.2} = \frac{x}{15}$

D $\frac{1}{6.2} = \frac{15}{x}$

Answer _____ square inches

Answer _____ cycling outfits

Jennifer has 84.5 yards of fabric to make curtains. She makes 6 identical curtains and has 19.7 yards of fabric remaining. How many yards of fabric does Jennifer use per curtain?

Show your work or explain your answer.

Jen's goal is to run a total of 22 miles in five days. The table below shows her log for the number of miles she ran on Monday, Tuesday, Wednesday, and Thursday.

JEN'S RUNNING LOG

Day	Distance (miles)
Monday	$4\frac{3}{4}$
Tuesday	$5\frac{1}{8}$
Wednesday	0
Thursday	$6\frac{1}{4}$
Friday	?

How many miles must Jen run on Friday to reach her goal?

Show your work.

Mario is setting up a new tent during a camping trip. The tent came with 7 feet of rope. The instructions are to use 34.5 inches of the rope to tie a tarp on top of the tent. Then, the remaining rope should be cut into $8\frac{1}{4}$ -inch sections to tie the tent to stakes in the ground. Mario will use all of the rope as instructed. Write and solve an equation to determine the number of $8\frac{1}{4}$ -inch sections of rope Mario can cut from the rope.

Show your work.

The table below shows the number of scooters sold at a store during a three-year period.

SCOOTER SALES

Year	Number Sold
Year 1	725
Year 2	579
Year 3	696

In Year 4, the store sold 112% of the total number of scooters sold during the previous three years combined. Determine the number of scooters sold in Year 4.

Show your work.

Answer _____ scooters