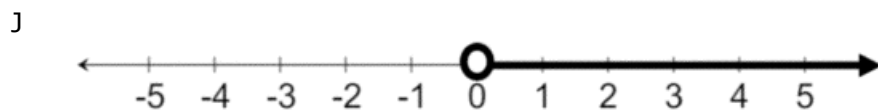
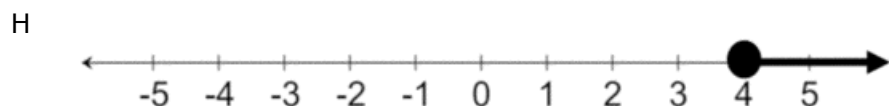
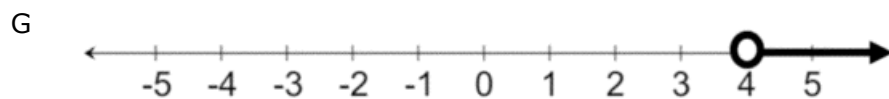
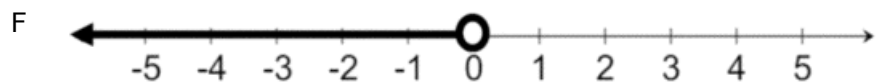


2016-17 Grade 7 Algebra Readiness Review

7.10B Which of the following best represents the solution to the inequality $5x - 10 > 10$?



7.11B Pablo says that the solution to the equation $8x - 13 = 3$ is $x = \frac{-10}{8}$. Eileen says the solution is $x = 2$.

Steven says that the solution is $x = 0$, and Tariq says that the solution is $x = 4$. Which student is correct?

- A Pablo
- B Eileen
- C Steven
- D Tariq

2016-17 Grade 7 Algebra Readiness Review

7.10C Which problem situation matches the equation below?

$$x - 4 = 6$$

- A Jared gave 4 cookies to his friend and he now has 6 remaining. How many cookies did Jared start with?
- B Jared's friend gave him 4 more cookies and he now has 6 remaining. How many cookies did Jared start with?
- C Jared gave 2 cookies to each of his 4 friends and he now has 6 remaining. How many cookies did Jared start with?
- D Jared ate 6 cookies and he now has 6 remaining. How many cookies did Jared start with?

7.10A Ricardo is renting a bounce house from the Bounzee houses rental company. Bounzee houses charges an initial fee of \$25 to rent a bounce house, plus an additional \$40 per hour of use. Ricardo spent a total of \$145 to rent a bounce house for his son's birthday party. Which equation below accurately represents the given situation?

- A $25x + 40 = 145$
- B $25 - 40x = 145$
- C $40x + 145 = 25$
- D $25 + 40x = 145$

7.4B Kristen went to visit her aunt over the weekend. It took her $1\frac{1}{2}$ hours to get there. If Kristen's aunt lived 96 miles away from Kristen's home, what was her average rate of speed?

- F 48 mph
- G 51 mph
- H 60 mph
- J 64 mph

2016-17 Grade 7 Algebra Readiness Review

7.2A Is the solution to the expression below a counting number, integer, rational number, or whole number?

$$(7.25)(2) + -10$$

- A Counting number
- B Integer
- C Rational number
- D Whole number

7.13F The Cho family is buying a new refrigerator. They choose a 20-cubic foot refrigerator with a regular price of \$678. The sales tax rate in their town is 8.5%. A mail-in rebate of \$120 was given after sales tax was computed, what is the final cost of the refrigerator?

- F \$57.63
- G \$735.63
- H \$615.63
- J \$558

2016-17 Grade 7 Algebra Readiness Review

7.13A Kylie is the owner and president of a small software company. Her taxable income for the year is \$132,000. What is her federal income tax for the year?

If taxable income is over:	But not over:	The tax is:
\$0	\$12,750	10% of the amount over \$0
\$12,751	\$48,600	\$1,275 plus 15% of the amount over \$12,750
\$48,601	\$125,450	\$6,652.50 plus 25% of the amount over \$48,600
\$125,451	\$203,150	\$25,865 plus 28% of the amount over \$125,450
\$203,151	\$398,350	\$47,621 plus 33% of the amount over \$203,150
\$398,351	\$425,000	\$112,037 plus 35% of the amount over \$398,350
\$425,001	No limit	\$121,364.50 plus 39.6% of the amount over \$425,000

- A \$27,502.50
- B \$27,699
- C \$28,026.50
- D \$36,960

7.11B Which of the following inequalities has a solution of $x > 3$?

- F $15 - 2x > 4$
- G $x + 6 > 12$
- H $12 - x > 11$
- J $4x - 3 > 9$

2016-17 Grade 7 Algebra Readiness Review

7.6H The probability of selecting a prime number from a bag that contains the numbers:

2, 3, 4, 5, 6, and 7 is $\frac{2}{3}$. Which of the following would be a qualitative prediction and comparison of the probability?

- A You are more likely to select a prime number than a composite number from the bag of tiles.
- B You are twice as likely to select a composite number from the bag of tiles than a prime number.
- C A prime number will always be chosen on the third drawing.
- D You are less likely to select a prime number than a composite number from the bag of tiles.

7.5A Which statement is true?

- F All squares are similar because all the corresponding sides are proportional and all 4 angles are congruent right angles.
- G All right triangles are similar because they all have a right angle.
- H All isosceles triangles are similar because they all have a pair of base angles congruent.
- J All rectangles are similar because they are all quadrilaterals with 4 right angles.

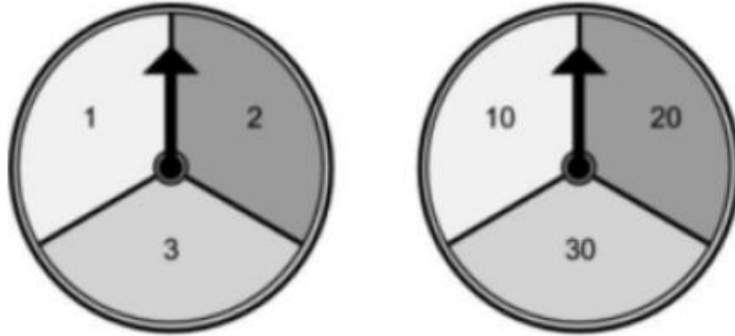
2016-17 Grade 7 Algebra Readiness Review

- 7.5C An F-16 fighter jet is drawn to look like the real thing, with a scale of 12 inches = 30 feet. If the actual size F-16 fighter jet has a wingspan of 40 feet, what should be the wingspan of the drawing?



- A 8 inches
- B 12 inches
- C 16 inches
- D 20 inches

- 7.6H Vera spins both spinners below and adds the two values together.



Which statement about this experiment is true?

- F She is more likely to get a sum that is even than a sum that is odd.
- G She is more likely to get a sum that is odd than a sum that is even.
- H She is more likely to get a sum that is prime than a sum that is composite.
- J She is more likely to get a sum that is even than a sum that is a multiple of 3.

2016-17 Grade 7 Algebra Readiness Review

- 7.6C Michael spins a spinner 25 times. The table below shows the number of times the arrow of the spinner landed on each of the five colored sections.

Outcome	Frequency
Orange	1
Blue	10
Green	2
Yellow	5
Purple	7

Michael wants to predict how many times the spinner will land on yellow if he spins the spinner 40 times. Which of the following correctly explains Michael's prediction?

- A Michael predicted it will land on yellow about 15 times. Since the spinner landed on yellow $\frac{2}{3}$ of 25 spins, it would land on yellow $\frac{2}{3}$ of 40 spins.
- B Michael predicted it will land on yellow about 12 times. Since the spinner landed on yellow 5 of 25 spins, it would land on yellow 12 of 40 spins.
- C Michael predicted it will land on yellow about 8 times. Since the spinner landed on yellow 20% of 25 spins, it would land on yellow 20% of 40 spins.
- D Michael predicted it will land on yellow about 10 times. Since the spinner landed on yellow 25% of 25 spins, it would land on yellow 25% of 40 spins.
- 7.4A Which situation represents a constant rate of change of 50 miles per hour?
- A 100 miles in 3 hours
- B 180 miles in 3 hours
- C 200 miles in 4 hours
- D 300 miles in 5 hours

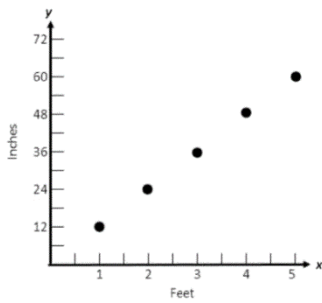
2016-17 Grade 7 Algebra Readiness Review

7.4A The table below shows the relationship between feet and inches.

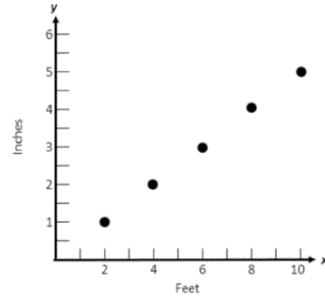
Feet	Inches
1	12
2	24
3	36
4	48
5	60
n	

Which graph shows the correct relationship between feet and inches?

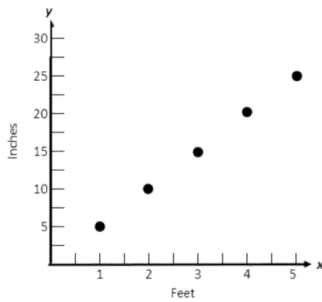
F



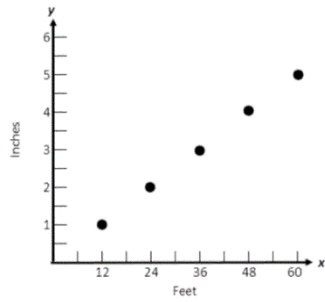
H



G

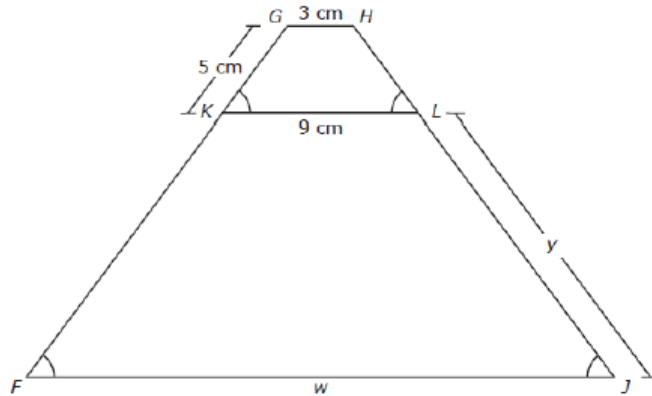


J



2016-17 Grade 7 Algebra Readiness Review

7.5C Janelle drew \overline{KL} in isosceles trapezoid $FGHJ$ to create similar trapezoids $FKLJ$ and $KGHL$.



Based on the given information, what are the values of y and w in centimeters?

- A $y = 11\text{ cm}$ and $w = 15\text{ cm}$
- B $y = 15\text{ cm}$ and $w = 15\text{ cm}$
- C $y = 11\text{ cm}$ and $w = 27\text{ cm}$
- D $y = 15\text{ cm}$ and $w = 27\text{ cm}$

2016-17 Grade 7 Algebra Readiness Review

7.6A Marty has three coins: a quarter, a dime, and a nickel. He flips each of them one time. Which table below shows all the possible unique outcomes of this compound event?

A Coin Outcomes

Quarter	Dime	Nickel
H	H	H
H	H	T
H	T	H
T	H	H
T	H	T
T	T	T

B Coin Outcomes

Quarter	Dime	Nickel
H	H	H
H	H	T
H	T	H
H	T	T
T	H	H
T	H	T
T	T	H
T	T	T

C Coin Outcomes

Quarter	Dime	Nickel
H	H	H
H	H	T
H	T	H
H	T	T
T	H	H
T	H	T
T	T	H
T	T	T
H	H	T
H	T	H
T	H	H
T	H	T
T	T	H

D Coin Outcomes

Quarter	Dime	Nickel
H	H	T
H	T	H
H	T	T
T	H	H
T	H	T
T	T	H

2016-17 Grade 7 Algebra Readiness Review

7.7A George bought a new motorcycle at an auction. He paid 75% of the original price, x , and received an additional discount of \$600. Which of the following equations represents y , the price George paid for the motorcycle?

F $y = \frac{3}{4}x - 600$

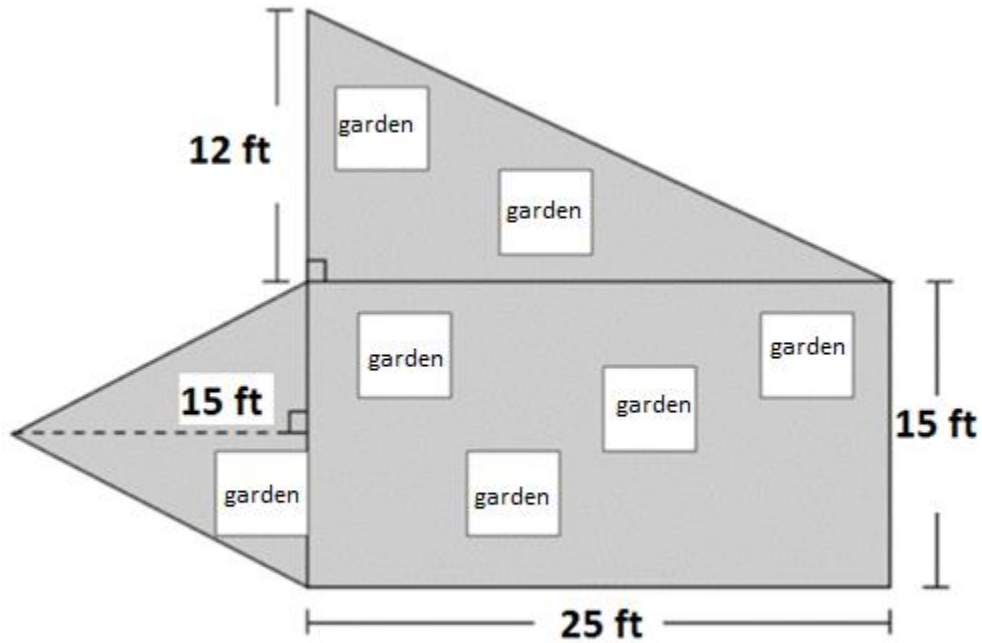
G $y = \frac{3}{4}x + 600$

H $y = \frac{1}{4}x - 600$

J $y = \frac{1}{4}x + 600$

2016-17 Grade 7 Algebra Readiness Review

7.9C Melissa wants to create several square garden beds with a width of 4 feet in her backyard as shown below.

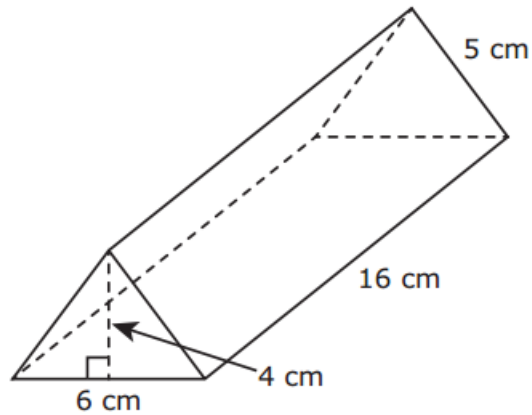


What area of her backyard will **not** be used for gardening?

- A 637.5 square feet
- B 112 square feet
- C 525.5 square feet
- D 749.5 square feet

2016-17 Grade 7 Algebra Readiness Review

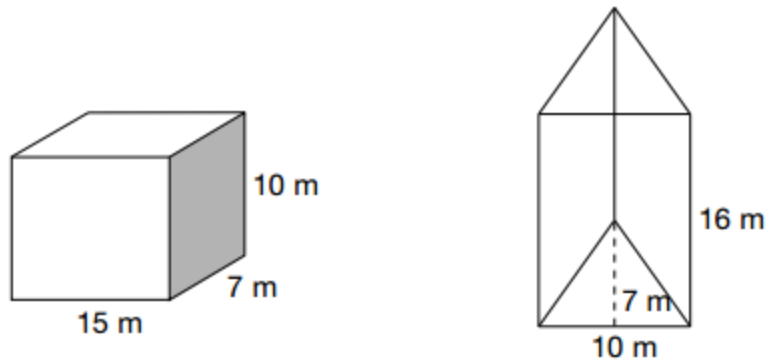
7.9A The dimensions of a triangular prism are shown in the diagram.



What is the volume of the triangular prism in cubic centimeters?

- F 480 centimeters³
- G 192 centimeters³
- H 240 centimeters³
- J 384 centimeters³

7.9A Francis filled these prism-shaped containers completely with water.

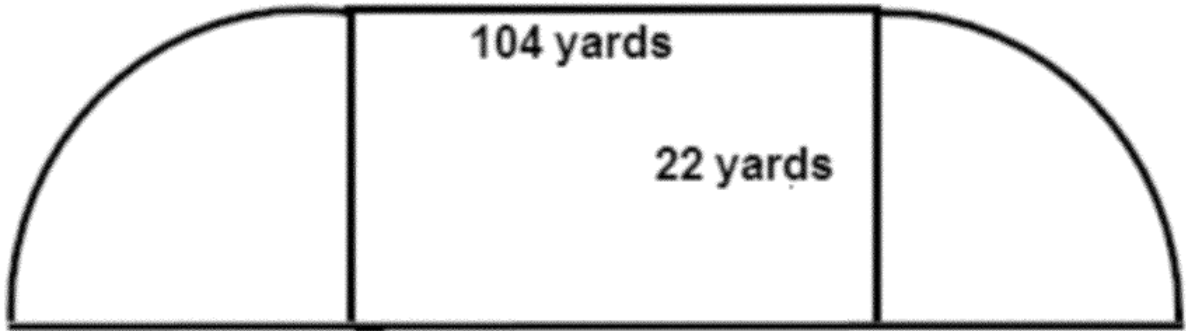


How much water is in both containers?

- F 560 m³
- G 1,050 m³
- H 1,610 m³
- J 2,170 m³

2016-17 Grade 7 Algebra Readiness Review

- 7.9C At the high school football field, they are replacing the grass with turf. In addition to the field, the ends of the field will have turf too.

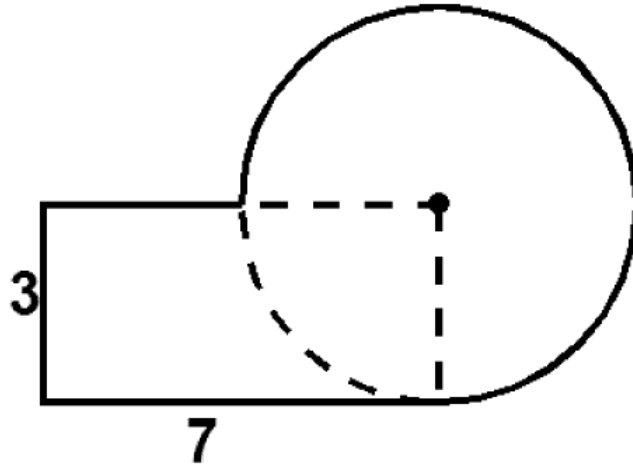


How much turf will they need to put in rounded to the nearest square yard?

- A 3,808 yd²
B 3,048 yd²
C 5,328 yd²
D 2,668 yd²
- 7.13D Jose needs a minimum weekly income of \$1,200 for his living expenses. Jose was hired for a new job where he is paid \$25 per hour for the first 40 hours and \$40 for each additional hour. What is the minimum number of hours that Jose needs to work each week?
- A 32 hours
B 38 hours
C 45 hours
D 47 hours
- 7.9B A new cookie cake company is offering a special deal: order one cookie cake at the regular price, and get a second cookie cake with a diameter twice the length of the first for the same price. Desmond orders a cookie cake with a 4-inch radius. What is the circumference of the second cookie cake Desmond received? Use $\pi \approx 3.14$.
- F 50.24 in
G 25.12 in
H 200.96 in
J 803.84 in

2016-17 Grade 7 Algebra Readiness Review

7.9B Which expression could be used to find the circumference of the entire circle below?



A $2(3)\pi$

B $2(\pi)3^2$

C 3π

D $2(7)\pi$

7.3B Janice measured the temperature each day during the past week. She noted the changes in temperature each day and put them all in a table.

Day	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Change in Temperature	-4	+10	-1	-7	+5	+6	-23

What was the average change in temperature for the week?

F 0

G 56

H -56

J -2

2016-17 Grade 7 Algebra Readiness Review

7.3B General admission to the fair is \$10.00. Each ride costs \$4.75. If Lupe has \$75.00 to spend at the fair, which method can be used to find out how many rides she can go on?

- F add \$10.00 and \$4.75
- G multiply \$10.00 and \$4.75 then subtract from \$75.00
- H subtract \$4.75 from \$10.00 then subtract from \$75.00
- J subtract \$10.00 from \$75.00 then divide the difference by \$4.75

7.5B What is the relationship between the circumference and the diameter in the table below?

d (cm)	C (cm)
2	6.28
3	9.42
4	12.56
5	15.70

- A The diameter is about two times the length of the circumference.
- B The diameter is about three times the length of the circumference.
- C The circumference is about two times the length of the diameter.
- D The circumference is about three times the length of the diameter.

7.13B Which correctly shows a list of assets and liabilities?

- A Assets: mortgage, car loan, credit card debt
Liabilities: car value, home value, savings account, retirement savings
- B Assets: car value, home value, savings account, retirement savings, credit card debt
Liabilities: mortgage, car loan
- C Assets: home value, savings account, car value, retirement savings
Liabilities: credit card debt, mortgage, car loan
- D Assets: savings account, retirement savings, mortgage, car loan
Liabilities: home value, car value, credit card debt

2016-17 Grade 7 Algebra Readiness Review

7.13C Gus created the net worth statement shown below.

Net Worth Statement

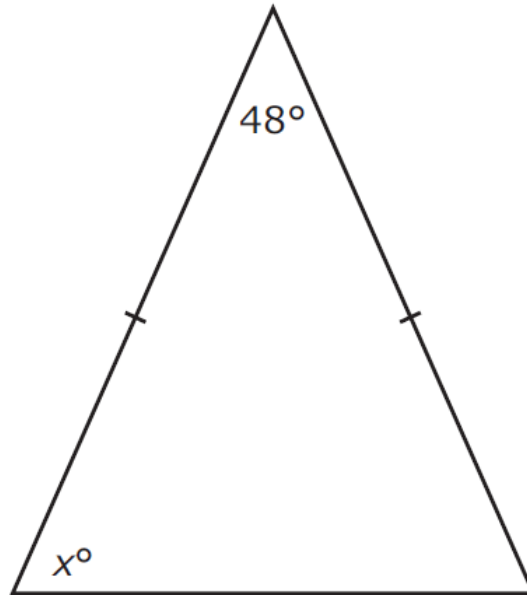
Assets	
Current House Value	\$87,900
Checking Account	\$950
Car value	\$10,300
Savings Account	\$2,450
Investments	\$5,000
Total Assets	\$106,600
Liabilities	
Credit Card Debt	\$2,650
Student Loans	\$12,250
Personal Loan	\$1,200
Total Liabilities	\$16,100

Based on the information in the table, what is Gus' net worth?

- F \$106,600
- G \$90,500
- H \$16,100
- J \$122,700

2016-17 Grade 7 Algebra Readiness Review

7.11C The measures of two angles in a triangle are shown in the diagram.



Which equation can be used to find the value of x ?

F $48 + 2x = 180$

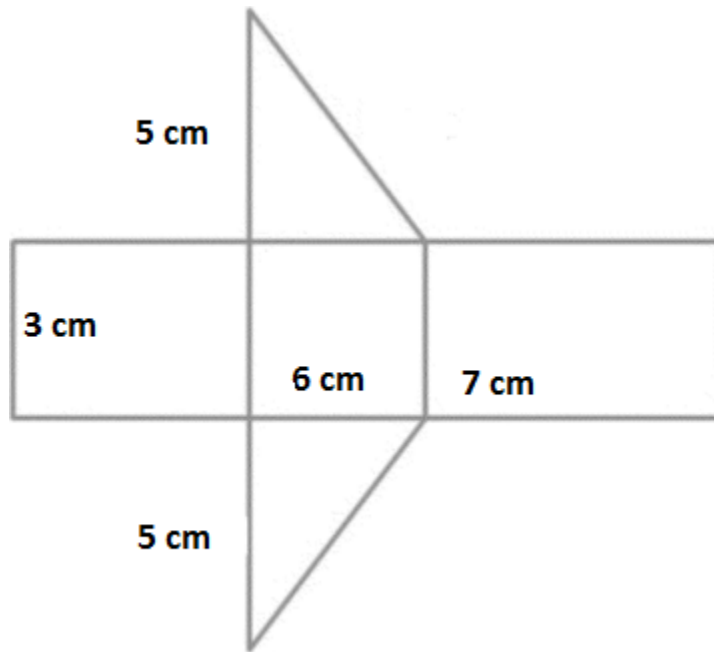
G $2(48) + x = 180$

H $48 + 2x = 360$

J $2(48) + x = 360$

2016-17 Grade 7 Algebra Readiness Review

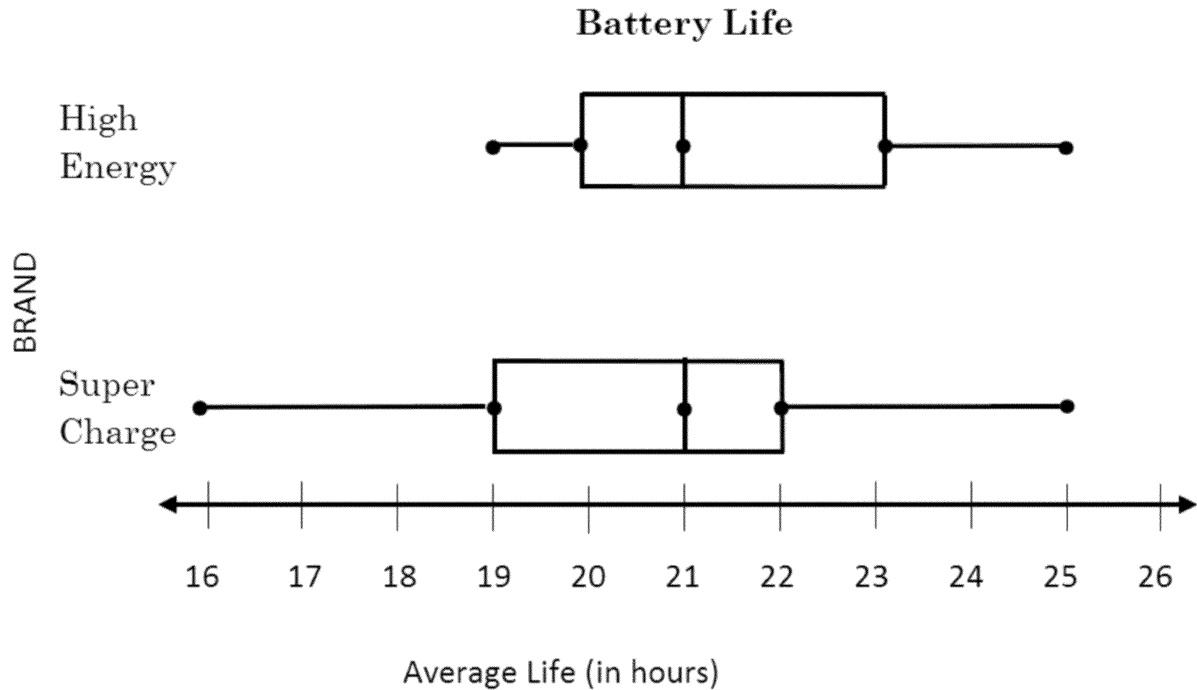
7.9D What is the total surface area of the prism shown below?



- A 28 cm^2
- B 84 cm^2
- C 426 cm^2
- D 630 cm^2

2016-17 Grade 7 Algebra Readiness Review

7.12A Go-Fast remote-controlled cars include a battery in each remote sold with a car. In half of the packages, they included a High Energy battery. In the other half of the packages, they included a Super charge battery. At random, they chose 30 completed customer surveys for each battery type received and recorded the responses on the box plots below.

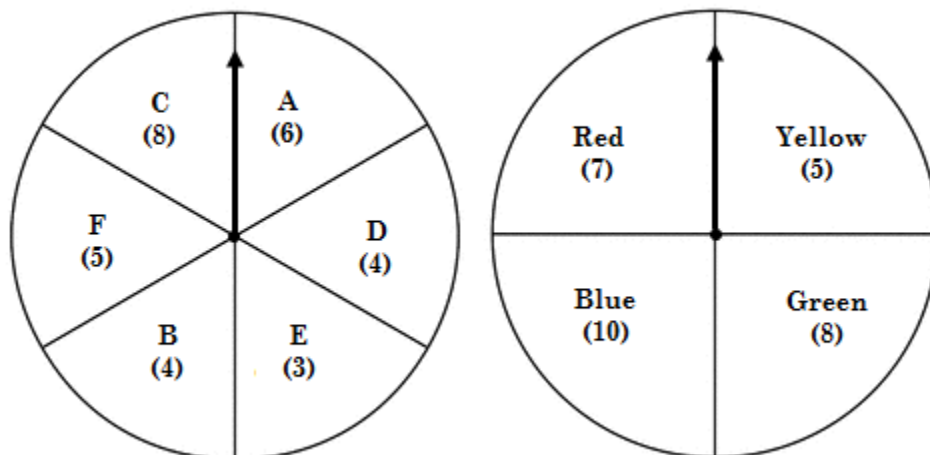


Based on the data and if the batteries are priced the same, which of the following is a reasonable inference to make about which brand to buy?

- F Super Charge is more reliable because more batteries lasted 22 hours or longer.
- G High Energy has the greater spread, so its performance is less reliable.
- H Super Charge's median life is closer to the midpoint of the spread, which makes it more reliable.
- J High Energy is the better performer because all the batteries lasted longer than one-fourth of the Super Charge batteries.

2016-17 Grade 7 Algebra Readiness Review

- 7.6I Each spinner shown below is divided into equal sections. Fred spins each spinner 30 times. He records the number of times each section is landed on in parentheses.



Using the experimental results, what is the probability that Fred will spin a green and F on the next spin?

- F $\frac{1}{24}$
- G $\frac{2}{45}$
- H $\frac{5}{8}$
- J $\frac{13}{30}$
- 7.3A Mr. Franklin asked each of his 36 piano students to select their favorite type of music.
- 25% of the students chose classical music.
 - $\frac{1}{3}$ of the students chose country music.
 - The remaining students chose rock music.

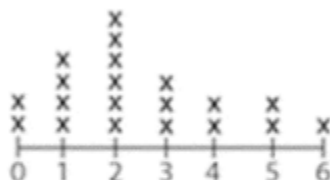
How many students chose rock music as their favorite type of music?

- A 14
- B 10
- C 15
- D 6

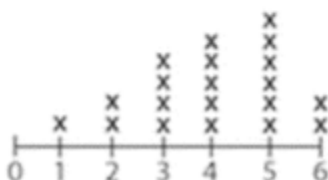
2016-17 Grade 7 Algebra Readiness Review

7.12A The data displayed below shows the number of reward points earned per student for two classes.

**Number of Rewards
Earned for Mrs. Green's Class
(per student)**



**Number of Rewards
Earned for Mrs. Thompson's Class
(per student)**



Which of the following conclusions can be drawn from the data?

- F Most students in Mrs. Green's class earned less than 4 points, and most students in Mrs. Thompson's class earned more than 3 points.
- G The spread of data for Mrs. Green's class is 6 and the spread of data from Mrs. Thompson's class is 6.
- H Mrs. Thompson's class earned fewer reward points than Mrs. Green's class.
- J Mrs. Green's class earned more reward points than Mrs. Thompson's class.

2016-17 Grade 7 Algebra Readiness Review

7.12C A study of ornamental grasses was conducted at two local plant retailers. The heights of 20 plants are shown in the table.

Bernard's Nursery	Al's Garden Center
11	12
12	14
11	16
10	18
14	10
16	12
10	14
12	20
13	21
9	18

How much greater is the mean height at Al's Garden Center than the mean height at Bernard's Nursery?

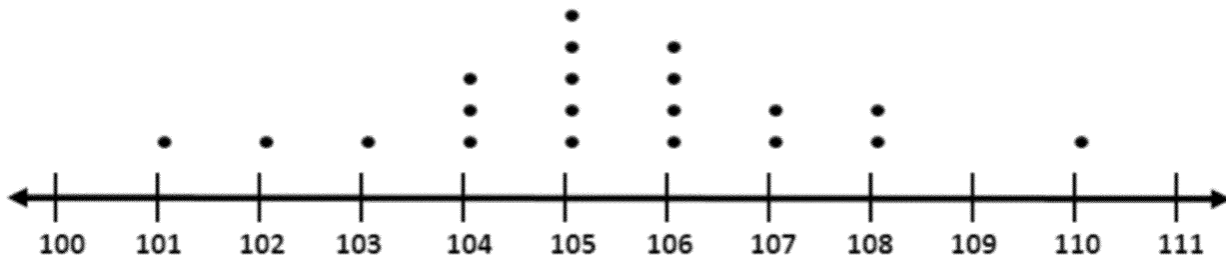
- A 1.5 inches
 - B 3.7 inches
 - C 4.0 inches
 - D 5.5 inches
- 7.4E Manny and Evan were flying paper airplanes. Manny's airplane flew 36.5 centimeters and Evan's airplane flew 18 centimeters. How many inches farther did Manny's airplane fly than Evan's? (1 cm is \approx 0.4 in.)
- F 4.6 in.
 - G 7.4 in.
 - H 46.25 in.
 - J 91.25 in.

2016-17 Grade 7 Algebra Readiness Review

7.12B At a toy factory, the quality control department conducts testing on random samples of toys each week. Toys must be free from defects in greater than 99% of all tests. In one week, the department found that 24 out of 1,000 toys produced that week had some type of defect. The department concluded that changes needed to be implemented because the factory failed to perform within the allowable guidelines. Which of the following is true about the department's conclusion?

- A The department is incorrect because the guidelines are set too low.
- B The department is incorrect because $\frac{24}{1000}$ is less than 1%.
- C The department is correct because the guidelines are set too high.
- D The department is correct because $\frac{24}{1000}$ is greater than 1%.

7.6G For each school day in March, Mrs. Ross recorded the number of students who bought lunch in the school cafeteria.



Lunches Served

For what percent of the school days were over 105 lunches served?

- A 70%
- B 45%
- C 100%
- D 55%

2016-17 Grade 7 Algebra Readiness Review

7.13F Mary decides to deposit \$4,000 from her income tax refund into a special savings account. If her bank will pay 10% interest compounded annually and she makes no other deposits or withdrawals, how much will she have in her account in four years when she graduates?

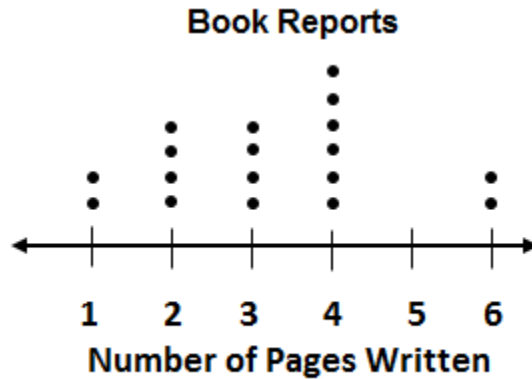
F \$5,856.40

G \$4,400.00

H \$4,840.00

J \$5,324.00

8.6G Mrs. Brown assigned her students a book report about a recent novel discussed in class. The following dot plot displays the number of pages written by the students in her third period class.



What percent of Mrs. Brown's class wrote a 4-page book report?

F 3%

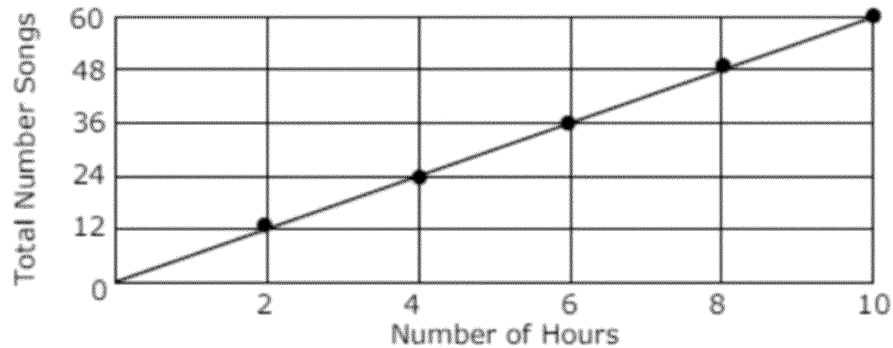
G 12%

H 30%

J $33\frac{1}{3}\%$

2016-17 Grade 7 Algebra Readiness Review

7.4C The graph represents the number of songs played on a radio station.



What is the constant of proportionality?

F 6

G $\frac{1}{6}$

H 12

J $\frac{1}{12}$

7.4D At the beginning of 2012, Jay's savings account had \$675.20. He deposited \$40 each month and earned \$66.50 interest for the year. What was the percent of increase for Jay's savings account at the end of the year, to the nearest whole percent?

A 37%

B 45%

C 55%

D 81%

7.11A On Saturday, Allison worked at an ice cream stand for 6 hours and earned \$43, of which \$19 was tips. On Sunday she worked the same number of hours and received \$22 in tips. What were Allison's total earnings on Sunday?

F \$24

G \$48

H \$46

J \$58

2016-17 Grade 7 Algebra Readiness Review

7.6I Heather rolls two 6-sided number cubes labeled 1-6. What is the probability that both number cubes land on a prime number?

F $\frac{1}{36}$

G $\frac{1}{4}$

H $\frac{1}{3}$

J $\frac{1}{2}$

7.4D Jalen earns \$12.75 per hour plus 4% commission on his furniture sales. During a six-hour shift, Jalen made four sales as shown in the table below.

Jalen's Sales

Items	Price
Couch and Love Seat	\$1,200
Bedroom Set	\$2,350
Dining Set	\$975
Bunk Beds	\$375

How much money did Jalen earn during his shift?

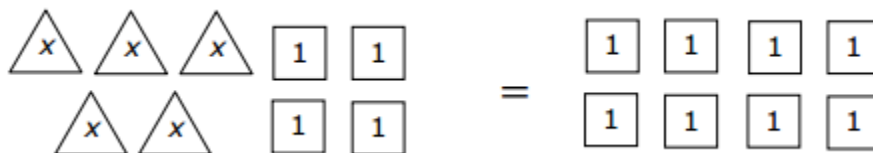
F \$2,036.50

G \$272.50

H \$96.10

J \$196.00

7.11A The model below represents $5x + 4 = 8$.



Which is the value of x in the equation $5x + 4 = 8$?

A 0.8

B 4

C 0.6

D 1

2016-17 Grade 7 Algebra Readiness Review

7.6E Savannah has one block for every letter of the alphabet. What is the probability she picks a letter in her name?

F $\frac{5}{26}$

G $\frac{4}{13}$

H $\frac{4}{9}$

J $\frac{3}{4}$

2016-17 Grade 7 Algebra Readiness Review

MULTIPLE CHOICE

7.10B ANS: G
7.11B ANS: B
7.10C ANS: A
7.10A ANS: D
7.4B ANS: J
7.2A ANS: C
7.13F ANS: H
7.13A ANS: B

7.11B ANS: J
7.6H ANS: A
7.5A ANS: F
7.5C ANS: C
7.6H ANS: G
7.6C ANS: C
7.4A ANS: C
7.4A ANS: F
7.5C ANS: D
7.6A ANS: B
7.7A ANS: F
7.6D ANS: A
7.7A ANS: F
7.9C ANS: C
7.9A ANS: G
7.9A ANS: H
7.9C ANS: B
7.13D ANS: C
7.9B ANS: F
7.9B ANS: A
7.3B ANS: J
7.3B ANS: J
7.5B ANS: D
7.13B ANS: C
7.13C ANS: G
7.11C ANS: F
7.9D ANS: B
7.12A ANS: J
7.6I ANS: G
7.3A ANS: C
7.12A ANS: F
7.12C ANS: B
7.4E ANS: G
7.12B ANS: D
7.6G ANS: B
7.13E ANS: F
7.6G ANS: J
7.4C ANS: F
7.4D ANS: D

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7.11A ANS: H
7.6I ANS: G
7.4D ANS: G
7.11A ANS: A
7.6E ANS: F