Lesson 1

1. Which set of numbers is in order from greatest to least?

A. $4, \frac{1}{4}, \frac{2}{3}, 0.04, 40$ B. $0.04, \frac{1}{4}, \frac{2}{3}, 4, 40$ C. $40, 4, \frac{2}{3}, \frac{1}{4}, 0.04$ D. $\frac{1}{4}, \frac{2}{3}, 0.04, 4, 40$

2. Charlene bought her friends lunch. The bill came to \$52.80 before Charlene added an 18% service tip. How much did she add for the service tip?

A. \$4.75   B. \$5.70   C. \$9.50   D. \$10.20

Randy is playing a number game. Beginning with the number 8, he adds 4, multiplies by 5, and then divides by -10. He then subtracts 2. What number des he find at the end of the game?

A. -8   B. -6   C. 6   D. 8

Simplify. No calculators!

4. $6 + (-7)$ 5. $(-4) + (-5)$ 6. $6 + (-9)$

7. $5.4 + (7 \times 6.3)$ 8. $\dfrac{16+9}{32+8}$ 9. $13(9.2 \div 16)$

10. $4x - y + xy + 3y$
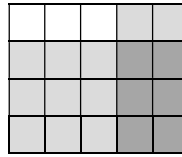
Lesson 2

1. Which multiplication expression is shown by the picture?

A. $\frac{1}{5} \times \frac{1}{4}$ B. $\frac{2}{5} \times \frac{3}{5}$ C. $\frac{2}{20} \times \frac{3}{20}$ D. $\frac{2}{5} \times \frac{3}{4}$

2. Olivia orders 4 ham sandwiches at the deli. The total amount was $30.52. How much did each sandwich cost?

A. $7.63   B. $7.83   C. $12.63   D. $122.08

3. The table shows the charges for a taxi ride in a city. If a taxi ride is m miles, which expression can be used to find the total charge of the ride?

A. $2.50m + 0.75$ B. $0.75m + 2.50$

C. $0.10m + 3.25$ D. $0.85m + 2.50$

Charges for Each Taxi Ride	
Charges	**Rate**
Mileage Charge	$0.75 Each Mile
City Gas Tax	$0.10 Each Mile
Tourist Charge	$2.50

Simplify. No calculators!

4. $(-6) - 7$

5. $6 — 6$

6. $7 - (-9)$

7. $2m + 2n - m + n$

8. $3p^2(p + 5)$

9. $\frac{3}{5} + \frac{4}{7}$

10. $\frac{8}{11} - \frac{1}{3}$

Lesson 3

1. Michael's age is 5 years younger than Jordan. Jordan is 4 years younger than Keanu. Keanu is 17 years old. How old is Michael?

> A. Michael is 12 years old, because he is 5 years younger than Keanu.
>
> B. Michael is 22 years old, because he is 5 years older than Keanu.
>
> C. Michael is 8 years old, because he is 5 years younger than Jordan, and Jordan is 13 years old.
>
> D. Michael is 18 years old, because he is 5 years older than Jordan, and Jordan is 13 years old.

2. Jeb's weight w is $\frac{1}{3}$ of Iago's weight a. Which equation could be used to find Jeb's weight?

A. $w = a - \frac{1}{3}$ B. $w = 1/3a$ C. $w = \frac{1}{3} + a$ D. $w = a \div \frac{1}{3}$

3. The school band sold 200 tickets to their concert. If 90 of the tickets were adult tickets, what percent of the tickets sold were adult tickets?

A. 18%   B. 45%   C. 55%   D. 90%

Simplify. No calculators!

4. $5 + (-8)$ 5. $-15 + 8$ 6. $14 + (-4)$

7. $\frac{3}{4} \times \frac{7}{8}$ 8. $-1\frac{1}{2} \div -2\frac{1}{2}$

Solve.

9. $6x = -4 + (-18)$ 10. $-3 - 7 = x + 1$

Lesson 4

1. A car travels 528 miles on 16 gallons of gas. At the same rate, how many gallons of gas are needed to travel 165 miles?

A. 4 gal   B. 5 gal   C. 6 gal   D. 7 gal

2. An electrician charges \$30 for a house visit and \$55 for each hour of work. If Mrs. Firewalks was charged \$222.50 for work, which can be used to find the number of hours that the electrician worked?

      A. Subtract 55 from 222.50 and then divide the difference by 30.

      B. Subtract 30 from 222.50 and then divide the difference by 55.

      C. Divide 222.50 by 55.

      D. Divide 222.50 by 30.

3. The height of a box is 6 inches. The length of the box is 14 inches and the width of the box is 4 inches. Which equation could be used to find the surface area of the box?

A. $s = 2 \cdot (14 \cdot 6) + 2 \cdot (4 \cdot 6)$ B. $s = 2 \cdot (14 \cdot 4) + 2 \cdot (14 \cdot 6) + 2 \cdot (6 \cdot 4)$

C. $s = (14 \cdot 4) + (14 \cdot 6) + (6 \cdot 4)$ D. $s = (14 \cdot 4) \cdot (14 \cdot 6) \cdot (6 \cdot 4)$

Simplify. No calculators!

4. $-9 - (-2)$ 5. $-7 - 6$ 6. $-8 - (-19)$

Solve.

7. $x(4 - 2) = 40$ 8. $x + (-9) > -2$ 9. $4 + (-12) \leq x - 6$

10. $11 - x > 0$

Lesson 5

1. A circle has a diameter of 8 feet. What is the area of the circle?

A. 12.56 ft^2 B. 50.24 ft^2 C. 12.68 ft^2 D. 25.12 ft^2

2. Look at the sequence in the table. Which expression can find the nth term in the sequence where n represents the position of the term?

A. $n + 3$ B. $4n - 1$ C. $4n + 2$ D. $3n - 2$

Position	Value of Term
1	3
2	7
3	11
4	15
5	19
n	

3. Which statement best describes the pattern shown below?

$$66, 62, 58, 54, 50, 46, 42, 38$$

A. Divide by 4 to get the next term.   B. Add 4 to get the next term.

C. Subtract 4 to get the next term.   D. Multiply by 4 to get the next term.
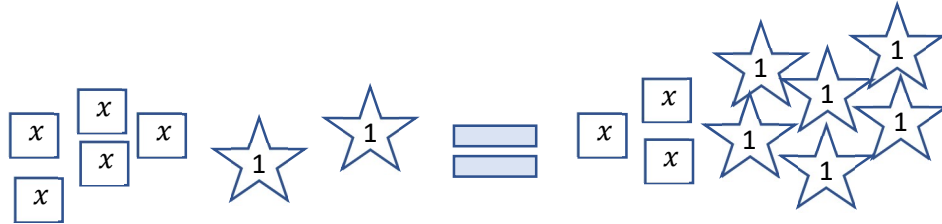
Simplify. No calculators!

4. $29 - 16 + (-5)$ 5. $-15 + 8 - (-19)$ 6. $45 - (-13) + (-14)$

Find the radius of the circles with the given circumferences. Use $\pi = 3.14$

7. $C = 264$ 8. $C = 343.2$ 9. $C = 83.6$ 10. $C = 897.6$

Lesson 6

1. The picture models the equation $5x + 2 = 3x + 6$.
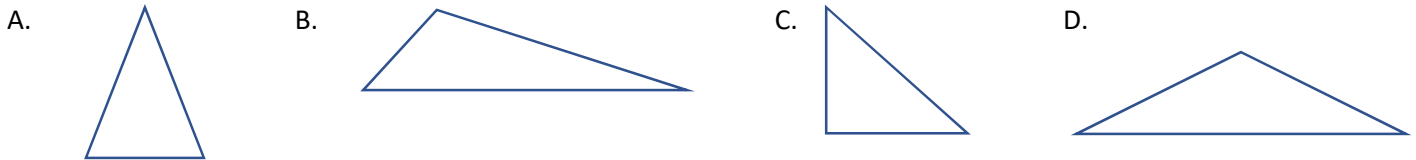
What value of x makes the equation true?

A. $x = 1$ B. $x = 2$ C. $x = 4$ D. $x = 6$

2. Angle A and angle B are supplementary angles. If the measure of angle A is 33°, what is the angle of measure B?

A. 17°   B. 57°   C. 137°   D. 147°

3. Which picture below is an obtuse isosceles triangle?

A.   B.   C.   D.

Simplify. No calculators!

4. $-15 - 6 - 9$ 5. $-7 + (-6) - 7$ 6. $29 - 56 - 78$

Solve.

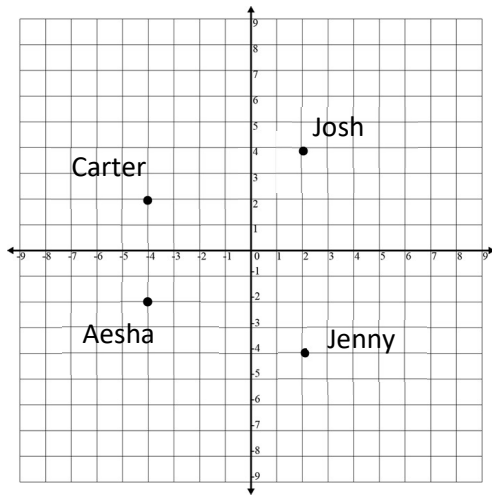7. What is 39% of 120?   8. What is 125% of 89?

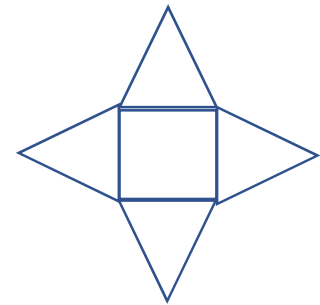9. What percent of 60 is 12?   10. What percent of 75 is 35?

Lesson 7

1. The map below shows where four of Nahimana's friends live. Which friend lives at point $(-4, 2)$?

A. Carter

B. Jenny

C. Josh

D. Aesha

2. What three-dimensional figure can be made from the net shown?

A. triangular pyramid   C. cube

B. rectangular pyramid   D. rectangular prism

3. The length of a rectangle is 3 times the width. The perimeter is 48 centimeters. What is the area?

A. 108 cm²   B. 141.75 cm²   C. 222.75 cm²   D. 432 cm²

Simplify. No calculators!

4. $17 + (-7) - 5$

5. $45 - (-9) + 5$

6. $10 + 6 \times 2$

Solve.

7. 18 is 50% of what number?

8. 35 is 8% of what number?

A rectangle has sides 136.5 m and 97.5 m.

9. What is the perimeter?

10. What is the area?

Lesson 8

1. A homeowner wants to cover the floor of a patio with square tiles that are the same size. She knows the area of each tile. What additional information does she need in order to find the number of tiles that she needs?

A. The price of each tile.   C. The area of the patio.

B. The perimeter of the patio.   D. The perimeter of each tile.

2. In the figure below, *ABCD* is a parallelogram. If the area of triangle *ABD* is 64 square centimeters, what is the area of *ABCD*?

A. 16 cm^2 B. 32 cm^2 C. 64 cm^2 D. 128 cm^2

3. What is the volume of the cylinder shown?

A. 44 ft^3

B. 69.08 ft^3

C. 138.16 ft^3

D. 276.32 ft^3

2 ft

11 ft

Simplify. No calculators!

4. $(15 + 39) \div 6$

5. $(20 - 15) \times 2 + 1$

6. $(4^2 + 6) \div 11$

A parallelogram has a base of 15 cm, one side 7 cm, and height 6 cm.

7. What is the perimeter?   8. What is the base?

A triangle has a base of 63 m, sides 51 m and 30 m, and height 24 m.

9. What is the perimeter?   10. What is the area?

Lesson 9

1. What is the difference in the volume of the two triangular prisms?

A. 32 cm³

B. 125 cm³

C. 1675 cm³

D. 3350 cm³

5 cm   14 cm   7 cm   15 cm   32 cm   8 cm
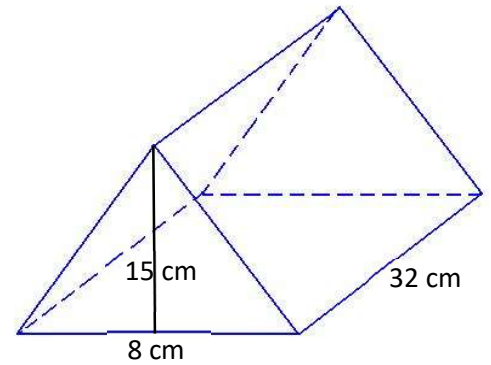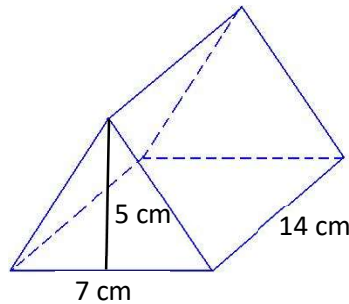
2. Juan needs to choose an outfit from his closet. He can choose from a red, green, or blue T-shirt and he can choose a pair of blue, tan, or black pants. How many possible outfits does Juan have if he picks one shirt and one pair of pants at random?

A. 3   B. 6   C. 9   D. 12

3. A jar contains 4 green marbles, 2 pink marbles, and 3 striped marbles. One marble is picked at random and then replaced. Then another marble is drawn at random again. What is the probability that both marbles are striped?

A. $\dfrac{1}{81}$ B. $\dfrac{1}{9}$ C. $\dfrac{1}{3}$ D. $\dfrac{1}{2}$

Simplify. No calculators!

4. $8 + 5 \times 10 - 12$ 5. $(2 \times 4) + 8 - (5 \times 3)$ 6. $5 + 18 \div 3^2 - 1$

Is the triangle with sides of the given lengths a right triangle?
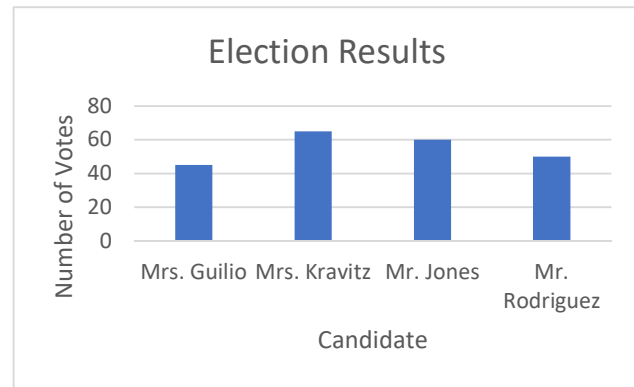
7. 12, 16, 20   8. 4, 6, 9   9. 9, 12, 15   10. 7, 11, 12

Lesson 10

1. All the members of a garden club vote for a new president. The bar graph shows the results of the election. Which statement about the data is true?

A. There are 220 members in the club.

B. Mr. Jones won the election.

C. Mrs. Guilio had more votes than Mr. Rodriguez.

D. Mrs. Kravitz received 60 votes.

Election Results

(Bar graph: Number of Votes vs Candidate)

Candidate	Votes
Mrs. Guilio	~45
Mrs. Kravitz	~65
Mr. Jones	~60
Mr. Rodriguez	~50

2. The basketball team's scores for 5 games were 35, 48, 24, 31, and 47. What is the mean of the scores?

A. 24   B. 35   C. 37   D. 185

3. A walker records her walking times for 1 mile over several weeks. The mean, median, mode, and range of her times are shown in the table. Which measure of data tells the time that she walked the most?

A. range   B. median   C. mode   D. mean

Walking Times	
Measure of Data	**Time**
Mean	17 min 30 sec
Median	19 min
Mode	18 min 20 sec
Range	7 min 2 sec

Simplify. No calculators!

4. $8 + 5 \times 10 - 12$

5. $14 + (50 - 7^2) \times 3$

6. $\dfrac{4 + (-6) - 5 - 3}{-6 + 4}$

7. A Rosebud rocking chair can be purchased for $245.70 in a furniture store or for $189 at a factory store. What is the percent of markup for the furniture store?

8. Find the length of a diagonal of a square if each side of the square has a length of 7 cm. Round to the nearest tenth.

9. A regular pentagon has a perimeter of 378.5 cm. Find the length of each side.

10. Lavender soap is sold in boxes of 3 bars for $6.50. To the nearest cent, find the cost for one bar.