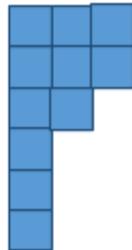


GRADE 7 LESSON 1

RECTANGLE AND SQUARE. AREA AND PERIMETER.

1. Find the area of the shape to the right, if the area of 1 square is 1 cm^2 .



2. Express (hint: $1 \text{ ha} = 10,000 \text{ m}^2$; $1 \text{ m}^2 = 10,000 \text{ cm}^2$):

- a) in square meters: 0.5 ha , 10.125 ha , 625 cm^2 ;
- b) in square centimeters: 7.5 m^2 , 31 m^2 ;
- c) in hectares: $23,145 \text{ m}^2$, 300 m^2 , 12 km^2 .

3. The width of the rectangle is 3.2 m . Its length is twice as big. Find the area of the rectangle.
4. Complete the table if a is the width, b is the length, A is the area, P is the perimeter of a rectangle.

a	1.2 m		
b	5 m	8 m	26 m
A		144 m^2	
P			100 m

5. Perimeter of a square is 2.4 m . Find its area.
6. What are the dimensions of a rectangle made up of three squares, each one of which has the area of 9 m^2 ? Create a diagram.
7. Using the area-model, evaluate 24×15 .

Answers: 1 11 cm^2

2 a) 5000 m^2 , 101250 m^2 , 0.0625 m^2 b) 75,000 cm^2 , 310,000 cm^2 c) 0.023145 ha, 0.03 ha, 1,200 ha

3 20.48 m^2

4 Column 1: A = 6 m^2 , P = 12.4 m Column 2: a = 18 m, P = 52 m Column 3: a = 24, A = 624 m^2

5 0.36 m^2

6 9 m by 3 m

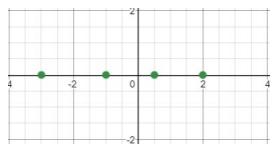
7 360 units squared

GRADE 7 LESSON 2
Number Line. Negative Numbers. Comparing Numbers.

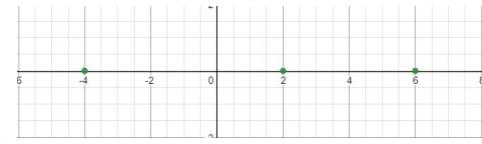
1. Plot the points on the number line with a coordinate x , if $x = -3; 2; -1; \frac{1}{2}$. Write down the numbers opposite to the given ones.
2. Plot point $A(2)$. State:
 - a) point B , if point A has been shifted +4 units;
 - b) point C , if point A has been shifted -6 units.
3. How many units has point $K(3)$ been shifted, if the new point is $L(-2)$?
 $T(7)$?
4. Compare (greater, less, equal):
 - a) $-8\frac{1}{3}$ and -7 ;
 - b) $8\frac{1}{3}$ and 7 ;
 - c) 1 and -1001 ;
 - d) 15 and -20 ;
 - e) -25 and -24 ;
 - f) -81 and 0;
 - g) 17 and 0;

GRADE 7 LESSON 2 (continued)
Number Line. Negative Numbers. Comparing Numbers.

5. This number is between which two natural numbers?:
 - a) 3.15;
 - b) $-1\frac{3}{4}$;
 - c) $\frac{1}{2}$;
 - d) $-\frac{5}{7}$.
6. State the whole numbers between the following two numbers -0.7 i 5.7 .
7. Arrange in descending order: -1.5 ; $10\frac{1}{2}$; -12 ; 0 ; 81 ; 13.45 ; -25 .
8. Arrange in an ascending order: $\frac{3}{17}$; $-\frac{3}{17}$; $-\frac{5}{17}$; 0 ; $\frac{2}{17}$; $-\frac{10}{17}$, $-\frac{2}{17}$



Answers: 1



2

3 5 and 4

4 a) less b) greater c) greater d) greater e) less f) less g) greater

5 a) 3 and 4 b) -1 and -2 c) 0 and 1 d) 0 and -1

6 0, 1, 2, 3, 4, 5

7 81; 13.45; $10\frac{1}{2}$, 0; -1.5; -12; -25

8 $-\frac{10}{17}$; $-\frac{5}{17}$; $-\frac{3}{17}$; $-\frac{2}{17}$; 0; $\frac{2}{17}$; $\frac{3}{17}$

GRADE 7 LESSON 3
ADDING/SUBTRACTING FRACTIONS WITH
DIFFERENT DENOMINATORS.

1. Using addition properties, evaluate the following:

a) $\frac{2}{7} + 2\frac{3}{5} + 1\frac{5}{7} + \frac{2}{5}$;

b) $3\frac{4}{9} + 10\frac{6}{7} - \frac{4}{9} + 1\frac{1}{7}$.

2. Find the difference and check using addition:

a) $1 - \frac{7}{15}$;

b) $5 - \frac{11}{12}$;

c) $6 - 3\frac{5}{8}$.

3. Evaluate:

a) $\frac{7}{10} + \frac{2}{3}$;

b) $\frac{2}{3} - \frac{3}{5}$;

c) $3\frac{1}{5} + 4\frac{2}{7}$.

GRADE 7 LESSON 3 (continued)
ADDING/SUBTRACTING FRACTIONS WITH
DIFFERENT DENOMINATORS.

4. Evaluate:

a) $5\frac{7}{24} - 2\frac{1}{8}$;

b) $3\frac{1}{5} - 2\frac{1}{2}$.

5. Evaluate:

a) $8\frac{1}{12} + \left(5 - 1\frac{3}{4} \right)$;

b) $11\frac{1}{4} - \left(1 - \frac{7}{10} \right)$.

6. Solve the equations:

a) $x + 2\frac{3}{11} = 10$;

b) $x - 4\frac{5}{6} = \frac{1}{9}$.

Answers: 1 a) 5 b) 15

2 a) $\frac{8}{15}$ b) $4\frac{1}{12}$ c) $2\frac{3}{8}$

3 a) $1\frac{11}{30}$ b) $\frac{1}{15}$ c) $7\frac{17}{35}$

4 a) $3\frac{1}{6}$ b) $\frac{7}{10}$

5 a) $11\frac{1}{3}$ b) $10\frac{19}{20}$

6 a) $x = 7\frac{8}{11}$ b) $x = 5\frac{41}{45}$

GRADE 7 LESSON 4
MULTIPLYING AND DIVIDING SIMPLE FRACTIONS.

1. Multiply:

a) $\frac{2}{7} \times \frac{1}{3}$;

b) $\frac{7}{20} \times \frac{10}{17}$;

c) $\frac{3}{16} \times \frac{8}{9}$.

2. Evaluate:

a) $2 \times \frac{7}{8}$;

b) $15 \times \frac{1}{5}$;

c) $\frac{6}{13} \times 26$.

3. A side of a square equals $\frac{5}{8}$ m. Determine its area.

GRADE 7 LESSON 4 (continued)
MULTIPLYING AND DIVIDING SIMPLE FRACTIONS.

4. State the reciprocals of the following: $\frac{3}{16}$, 8, $6\frac{3}{10}$.

5. Evaluate:

a) $\frac{4}{11} \div \frac{7}{9}$;

b) $\frac{4}{9} \div \frac{9}{20}$;

c) $\frac{20}{21} \div \frac{5}{14}$.

6. Divide:

a) $6 \div \frac{3}{8}$;

b) $1 \div \frac{7}{8}$;

c) $\frac{4}{9} \div 2$.

Answers: 1 a) $\frac{2}{21}$ b) $\frac{7}{34}$ c) $\frac{1}{6}$

2 a) $1\frac{3}{4}$ b) 3 c) 12

3 $\frac{25}{64} m^2$

4 $\frac{16}{3}, \frac{1}{8}, \frac{10}{63}$

5 a) $\frac{36}{77}$ b) $\frac{80}{81}$ c) $2\frac{2}{3}$

6 a) 16 b) $1\frac{1}{7}$ c) $\frac{2}{9}$

GRADE 7 LESSON 5
ADDING/SUBTRACTING POSITIVE/NEGATIVE NUMBERS.

1. Record the numbers with an absolute value of 3; 20; 0.
2. Determine the distance in units from O (0) to each of the following:

$$A(-3.8), B(215), C(-173.7), D(0).$$

3. Determine the value of the expression:

a) $|-9| + |-10|;$

b) $|-190| - |-90|;$

c) $|7| \times |-0.1|;$

d) $|-240| \div |60|.$

4. Add the following:

a) $17 + (-11);$

b) $17 + (-20);$

c) $-8 + (-392);$

d) $-1.2 + (-5.3).$

GRADE 7 LESSON 5 (continued)
ADDING/SUBTRACTING POSITIVE/NEGATIVE NUMBERS.

5. Find the difference:

a) $5 - (-3)$;

b) $7 - (-9)$;

c) $1 - 8$;

d) $15 - 20$.

6. Find the value of the expression:

a) $13.4 + (-10) + (-13.4)$;

b) $0 - (-12.81)$;

c) $-12 - 16 - (-28)$;

d) $-3.2 + 50 - 0.8$.

Answers: 1 3, - 3; 20, - 20; 0
2 3.18, 215, 173.7, 0
3 a) 19 b) 100 c) 0.7 d) 4
4 a) 6 b) - 3 c) - 400 d) - 6.5
5 a) 8 b) 16 c) - 7 b) - 5
6 a) - 10 b) 12.81 c) 0 d) 46

GRADE 7 LESSON 6
MULTIPLYING/DIVIDING POSITIVE/NEGATIVE NUMBERS.

1. Multiply:

a) $100 \times (-1.8)$;

b) $-0.9 \times (-0.3)$;

c) $(-6) \times 0.7$;

d) -158×0 .

2. Evaluate:

a) $(-11 - 23) \times (-2)$;

b) $-5 \times (-8 + 24)$;

c) $-0.9 \times (-0.8) - 1$;

d) $9 \times (-0.3) \times (1 - 0.9)$.

3. Evaluate:

a) $-2 \times 9.012 \times (-50)$;

b) $11 \times (-4) \times (-8) \times 25$;

c) $-3.28 \times 20 \times (-0.1) \times (-5)$.

4. Evaluate:

a) $-82 \div 2$;

b) $51 \div (-3)$;

c) $-1.05 \div (-0.5)$;

Answers: 1 a) - 180 b) 0.27 c) - 4.2 d) 0

2 a) 68 b) - 80 c) - 0.28 d) - 0.27

3 a) 901.2 b) 8,800 c) - 32.8

4 a) - 41 b) - 17 c) 2.1

GRADE 7 LESSON 7

SIMPLIFYING EXPRESSIONS.

1. Simplify the expression:

- a) $-2.4 \times 2x$;
- b) $-6a \times (-0.5)$;
- c) $-a \times (-0.02) \times (-100)$.

2. Collect like terms:

- a) $4a - 5a - a + 3a$;
- b) $12m - 3m + 5 - 2m - 12$;
- c) $25c - 11c + 3 - 5c - 9c$.

3. Solve each equation:

- a) $0.3x = 0.15$;
- b) $7x + 1 = -3$;
- c) $5x + 42 = -3$;
- d) $10x - 1 = 7x + 20$.

4. Solve each equation:

- a) $0.1x + 2.7 = 1.4 - 1.2x$;
- b) $5\frac{2}{5} - x = 10$;

Answers: 1 a) $-4.8x$ b) $3a$ c) $-2a$

2 a) a b) $7m - 7$ c) 3

3 a) $x = 5$ b) $x = -\frac{4}{7}$ c) $x = -9$ d) $x = 7$

4 a) $x = -1$ b) $x = -4\frac{3}{5}$