

# MATH

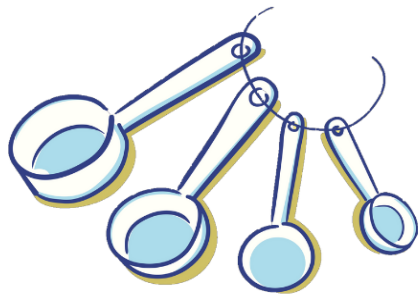
## GRADE 6 (General)

Revision



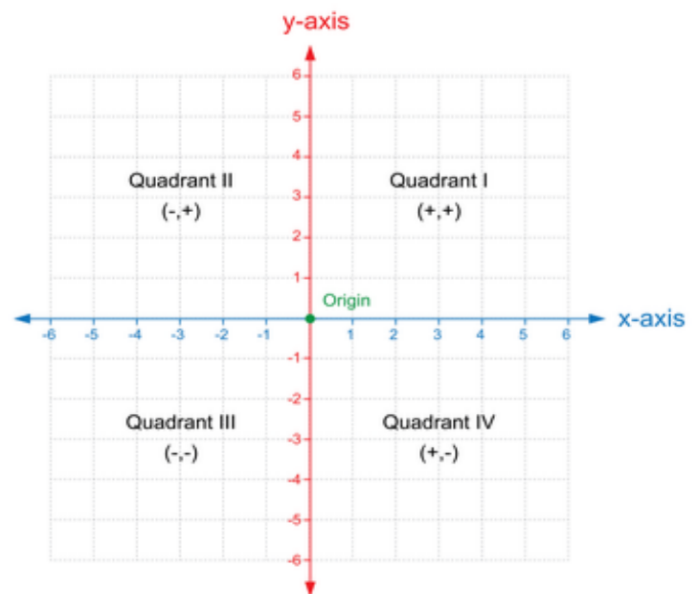
# GRADE 6 TERM 1: REVISION

## Chapter 1: Summary



# Ratios & Rates

- **FACTORS AND MULTIPLES**
- **RATIOS**
- **RATES**
- **RATIO TABLES**
- **GRAPH RATIO TABLES**
- **EQUIVALENT RATIOS**



# FACTORS AND MULTIPLES

## Greatest Common Factor

12: 1, 2, 3, 4, 6, 12

36: 1, 2, 3, 4, 6, 9, 12, 18, 36



The **greatest common factor** is the largest factor that is shared between two numbers. The **GCF** of 12 and 36 is 12.

## Least Common Multiple



| MULTIPLES TABLE |            |            |            |            |
|-----------------|------------|------------|------------|------------|
| x               | 1          | 2          | 3          | 4          |
| Number          | Number x 1 | Number x 2 | Number x 3 | Number x 4 |
| 4               | 4          | 8          | 12         | 16         |
| 6               | 6          | 12         | 18         | 24         |

The **least common multiple** is the smallest number that is a multiple of two or more numbers. The **LCM** of 4 and 6 is 12.

### Factors

|        |
|--------|
| 24     |
| 1 × 24 |
| 2 × 12 |
| 3 × 8  |
| 4 × 6  |

24: 1, 2, 3, 4, 6, 8, 12, 24

**Factors** are numbers that can evenly divide another number without having a remainder.

### Prime Numbers

|       |       |
|-------|-------|
| 5     | 7     |
| 1 × 5 | 1 × 7 |

Numbers that only have these two factors are called **prime numbers**.

### Multiples

multiples of 16

$$\begin{aligned} 16 \times 1 &= 16 \\ 16 \times 2 &= 32 \\ 16 \times 3 &= 48 \\ 16 \times 4 &= 64 \end{aligned}$$

**Multiples** are numbers that result when we multiply one whole number by another whole number.

### Prime Factorization



The **Prime Factorization** are all of the prime factors that can be multiplied to make the original number.

# RATES

A **rate** is a ratio used to compare different quantities.

$$\frac{16 \text{ meters}}{4 \text{ minutes}}$$

A **unit rate** is a ratio used to compare an amount per one unit.

$$\frac{16 \text{ meters}}{4 \text{ minutes}} = \frac{4 \text{ meters}}{1 \text{ minute}}$$

## Write the unit rate.

RAN 15 KILOMETERS IN THE PAST 5 DAYS.

Divide to find the unit rate.

$$\begin{array}{l} \text{kilometers} \rightarrow 15 \text{ kilometers} \\ \text{days} \rightarrow 5 \text{ days} \end{array} \quad \begin{array}{l} \xrightarrow{+5} \\ \xrightarrow{+5} \end{array} \quad \frac{3 \text{ kilometers}}{1 \text{ day}}$$

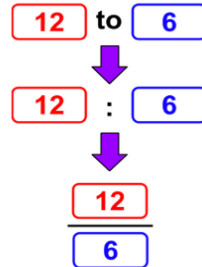
# RATES

## The ratio of Clouds to Moons



A **ratio** is the comparison of two numbers by division.

## The Ratio



## Simplifying Ratios

Simplify using the GCF.

$$\frac{12}{6} \frac{\div 6}{\div 6} = \frac{2}{1}$$

There are **2 clouds to 1 moon**.

Scaling back or forward can help you find equivalent ratios in ratio tables.

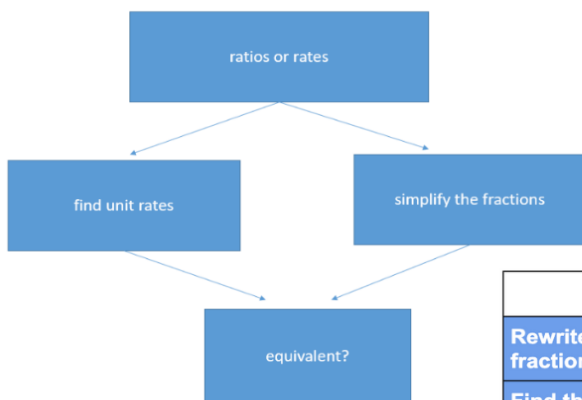
## Ratio Tables

|                   |    |   |    |
|-------------------|----|---|----|
| Number of Dates   | 12 | 6 | 18 |
| Number of Cookies | 18 | 9 | 27 |

Arrows indicate scaling: +2 and x3 for the first row, and +2 and x3 for the second row.

**Ratio tables** are tables that organize equivalent ratios.

Use the diagram to determine if the ratios are equivalent.



# RATIOS TABLES

To make 14 smoothies you need 4 kg of strawberries. How many kgs of strawberries will Khalil need to make 35 smoothies?

|                     |    |  |    |
|---------------------|----|--|----|
| Number of Smoothies | 14 |  | 35 |
| Strawberries (kg)   | 4  |  |    |

|                     |    |   |    |
|---------------------|----|---|----|
| Number of Smoothies | 14 | 7 | 35 |
| Strawberries (kg)   | 4  | 2 | 10 |

Arrows indicate scaling: +2 and x5 for the first row, and +2 and x5 for the second row.

Therefore, Khalil needs **10 kg** of strawberries to make **35 smoothies**.

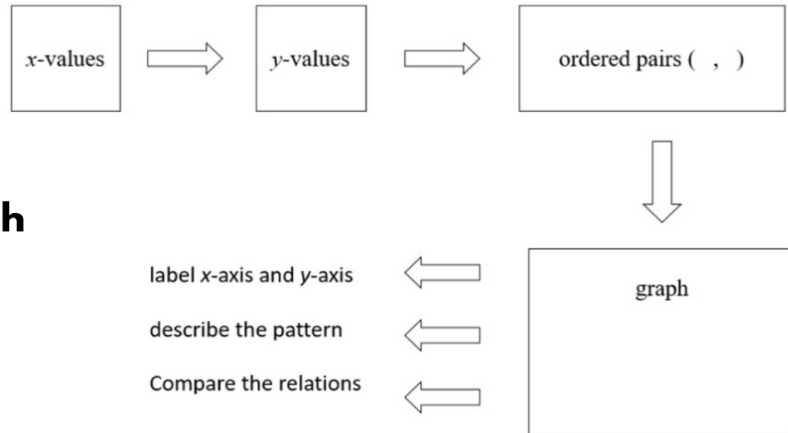
# EQUIVALENT RATIOS

## EXAMPLE

Determine if the given pair of rates are equivalent.  
75 steps in 5 minutes, and 45 steps in 3 minutes.

|  | 75 steps in 5 minutes   | 45 steps in 3 minutes                        |
|--|---|--|
| Rewrite each rate as a fraction.                             | $\frac{75 \text{ steps}}{5 \text{ minutes}}$  | $\frac{45 \text{ steps}}{3 \text{ minutes}}$ |
| Find the unit rate. Divide the numerator by the denominator. | $\frac{15 \text{ steps}}{1 \text{ minute}}$   | $\frac{15 \text{ steps}}{1 \text{ minute}}$  |
| Compare the unit rates.                                      | The unit rates are equal, so the rates are equivalent.<br>$\frac{75 \text{ steps}}{5 \text{ minutes}} = \frac{45 \text{ steps}}{3 \text{ minutes}}$ |  |

# GRAPH RATIO TABLES



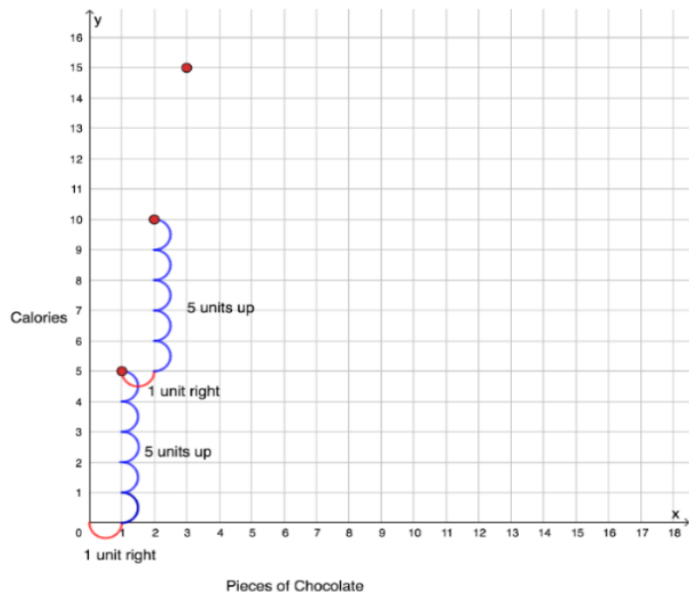
Use the diagram to understand how to graph ratio tables.

## EXAMPLE

| Pieces of Chocolate, x | Calories, y | Ordered Pairs (x,y) |
|------------------------|-------------|---------------------|
| 1                      | 5           | (1, 5)              |
| 2                      | 10          | (2, 10)             |
| 3                      | 15          | (3, 15)             |
| 4                      | 20          | (4, 20)             |

Identify the ordered pairs.

Graph each ordered pair.



Describe the pattern.

The points on the graph appear on a straight line. The points are one unit to the right and 5 units up.

# Chapter 1: "Ratios and Rates"

## *Lesson 1: Factors and Multiples*

**Find the GCF of each set of numbers.**

1. 10, 45

2. 9, 36, 63

3. 24, 64

4. 39, 26, 63

**Find the LCM of each set of numbers.**

1. 70, 10, 63

2. 7, 49

3. 10, 12, 18

4. 8, 28

## *Lesson 2: Ratios*

**Write each ratio as a fraction in simplest form.**

1. 3 sailboats to 4 fan boats
2. 9 tulips to 16 daffodils
3. 8 ducks to 13 geese
4. 6 baseballs to 9 softballs

## *Problem Solving*

1. The design on Mariam wall includes 16 pink stripes and 20 green stripes. Find the ratio of pink stripes to green stripes.

2. At a wildlife park, Huda counted 10 lions and 14 tigers. What is the ratio of lions to tigers?
3. For Exercises A and B, refer to the table showing the animals found in a tide pool. Write each ratio in simplest form.

| Animals Found in a Tide Pool |        |
|------------------------------|--------|
| Animal                       | Number |
| Anemones                     | 16     |
| Limpets                      | 22     |
| Snails                       | 12     |
| Starfish                     | 3      |

- A. Find the ratio of limpets to snails. Then explain its meaning.
- B. Find the ratio of snails to the total number of animals. Then explain its meaning.

## Lesson 3: Rates

Write each of the following rates as a unit rate.

- 14 hours in 2 weeks
- 8 teaspoons for 4 cups



3. 8 tomatoes for AED 2

4. AED 28 for 4 hours

5. 150 miles in 3 hours

### *Problem Solving*

1. Rashid raked 30 bags of leaves in 3 hours. If he raked the same number of bags each hour, how many bags of leaves did he rake in one hour?
2. Mr. Abdullah gave his math students 34 quizzes during 17 weeks of school. If he gave the same number of quizzes each week, how many quizzes did Mr. Abdullah give his students every week?
3. It cost Mrs. Aisha AED 245 for her and 6 people to take a day-long guided tour of the Al-Ain Zoo. How much does the guided tour cost per person?
4. Write the ratio AED 12 dollars for 3 tickets as a unit rate.

## Lesson 4: Ratio Tables

Use the ratio table given to solve each problem.

1. A recipe for 1 apple pie calls for 6 cups of sliced apples. How many cups of sliced apples are needed to make 4 apple pies?

|                              |   |  |  |   |
|------------------------------|---|--|--|---|
| <b>Number of Pies</b>        | 1 |  |  | 4 |
| <b>Cups of Sliced Apples</b> | 6 |  |  |   |

2. Samer bought 40 packs of baseball cards for a discounted price of AED 64. If he sells 10 packs of baseball cards to a friend at cost, how much should he charge?

|                                      |    |  |  |    |
|--------------------------------------|----|--|--|----|
| <b>Number of Baseball Card Packs</b> | 10 |  |  | 40 |
| <b>Cost in AED</b>                   |    |  |  | 64 |

3. A recipe that yields 12 cups of soup calls for 28 ounces of beef broth. How many ounces of beef broth do you need to make 18 cups of the soup?

|                             |  |    |    |
|-----------------------------|--|----|----|
| <b>Number of Cups</b>       |  | 12 | 18 |
| <b>Ounces of Beef Broth</b> |  | 28 |    |

4. At a cat shelter, a 24-pound bag of cat food will feed 36 cats a day. How many cats would you expect to feed with a 16-pound bag of cat food?

|                           |    |    |  |
|---------------------------|----|----|--|
| <b>Pounds of Cat Food</b> | 16 | 24 |  |
| <b>Number of Cats Fed</b> |    | 36 |  |

5. Mr. Omar economy car can travel 420 miles on a 12-gallon tank of gas. Determine how many miles he can travel on 8 gallons.

|                |     |  |   |
|----------------|-----|--|---|
| <b>Miles</b>   | 420 |  |   |
| <b>Gallons</b> | 12  |  | 8 |

## Lesson 5: Graph Ratio Tables

Graph and label each point on the coordinate plane at the right.

a.  $N(8, 6)$

b.  $P(0, 8)$

c.  $R(4, 8)$

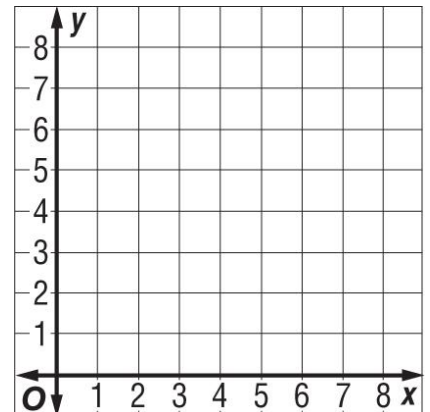
d.  $S(3, 4)$

e.  $T(6, 8)$

f.  $W(6, 2)$

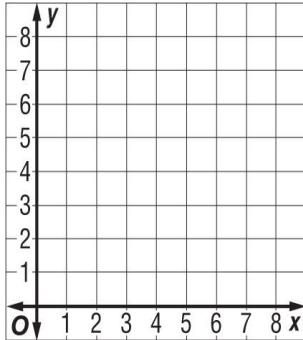
g.  $A(8, 2)$

h.  $B(2, 7)$

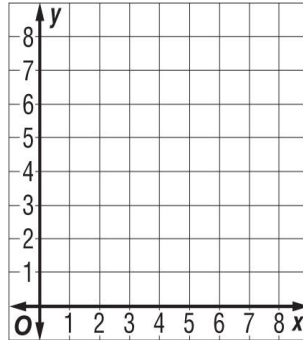


Graph and label each point on the coordinate plane.

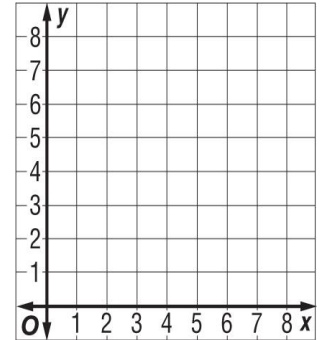
1.  $A(2, 7)$



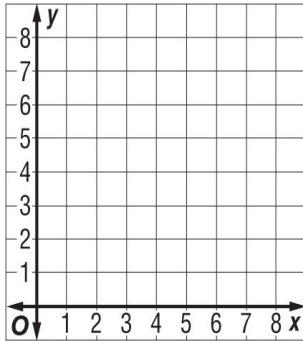
2.  $B(1, 5)$



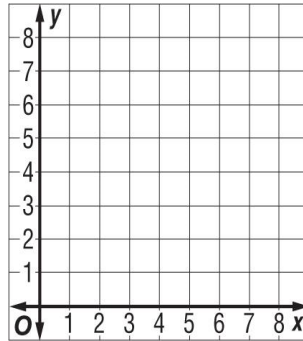
3.  $C(4, 7)$



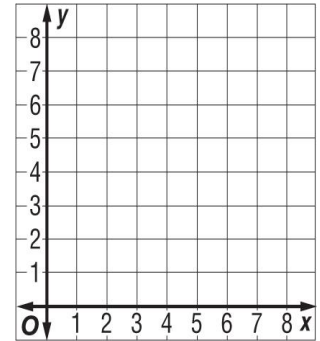
4.  $D(2, 5)$



5.  $E(6, 4)$



6.  $F(0, 6)$

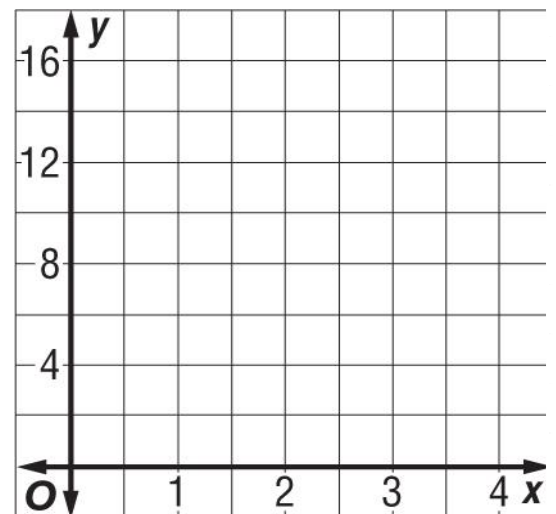


1. Use the following information to answer the questions.

A car wash can wash four cars in one hour. The table shows the total number of cars washed in 0, 1, 2, and 3 hours.

|                    |   |   |   |    |
|--------------------|---|---|---|----|
| <b>Hours</b>       | 0 | 1 | 2 | 3  |
| <b>Cars Washed</b> | 0 | 4 | 8 | 12 |

a. List this information as ordered pairs (number of hours, number of cars washed).



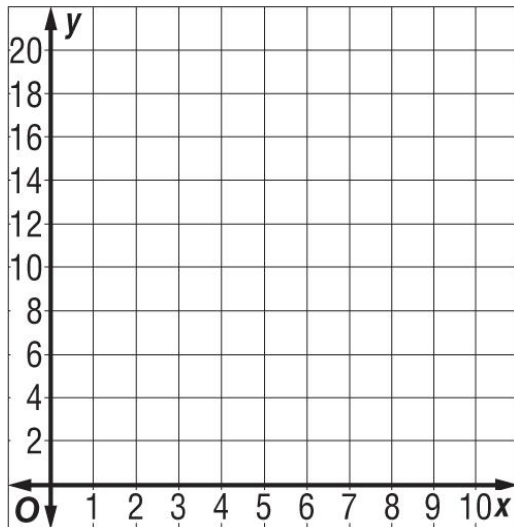
b. Graph the ordered pairs on the coordinate plane at the right. Then describe the graph.

2. Erasers cost 5 cents each at the school store. The table shows this relationship.

| Cost of Erasers   |            |
|-------------------|------------|
| Number of Erasers | Cost (AED) |
| 1                 | 5          |
| 2                 | 10         |
| 3                 | 15         |
| 4                 | 20         |

a. List this information as ordered pairs (number of erasers, cost).

b. Graph the ordered pairs. Then describe the graph.

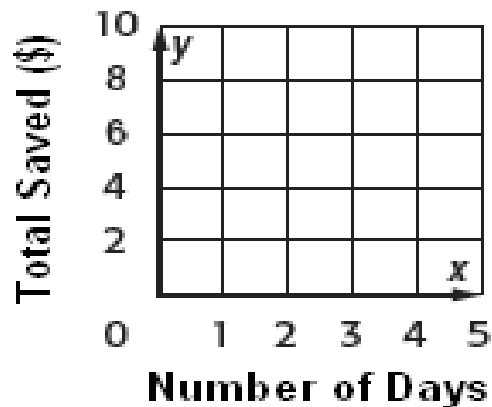


Fatima is saving AED1.50 each day to buy a new sweater. The table shows the amount that Fatima saves each day to buy a new sweater. The table also lists this information as ordered pairs (days, total saved).

1. Graph the ordered pairs.

| Tanya's Savings     |                        |                         |
|---------------------|------------------------|-------------------------|
| Number of Days, $x$ | Total Saved (AED), $y$ | Ordered Pair ( $x, y$ ) |
| 0                   | 0                      | (0, 0)                  |
| 1                   | 1.5                    | (1, 1.5)                |
| 2                   | 3                      | (2, 3)                  |
| 3                   | 4.5                    | (3, 4.5)                |
| 4                   | 6                      | (4, 6)                  |

### Total Saved (AED)



2. Describe the pattern in the graph.

## *Lesson 6: Equivalent Ratios*

**Determine if each pair of ratios or rates are equivalent. Explain your reasoning.**

1. AED 18 for 3 bracelets; AED 30 for 5 bracelets
2. 120 Calories in 2 servings; 360 Calories in 6 servings
3. 4 hours worked for AED 12; 7 hours worked for AED 28
4. 15 blank CDs for AED 5; 45 blank CDs for AED 15
5. 24 points scored in 4 games; 48 points scored in 10 games
6. 15 out of 20 students own hand-held games; 105 out of 160 students own hand-held games.

## Lesson 7: Ratio and Rate Problems

### Solve.

1. Salem is making guacamole. He uses 2 tablespoons of cilantro for every 3 avocados. At this rate, how many tablespoons of cilantro will he need for 9 avocados?
2. The ratio of blue marbles to white marbles in a bag is 4 to 5. At this rate, how many blue marbles are there if there are 15 white marbles?
3. Rashida must mix 6 tablespoons of plant food for every 2 gallons of water. If she has 6 gallons of water, how much plant food should she use?
4. At a local fruit stand, Maha spends AED 3.96 for 2 pounds of strawberries. How much can she expect to pay for 4 pounds of strawberries?
5. On her pogo stick, Aisha made 24 hops in 30 seconds. At this rate, how many hops will she make in 50 seconds?



6. On a test, Mariam answered 12 out of the first 15 problems correctly. If this rate continues, how many of the next 25 problems will she answer correctly?
  
7. The Falcons soccer team won 12 out of 14 games. If this rate continues, how many games will they win if they play a total of 21 games?
  
8. At harvest, 16 ears of corn are being picked for every 18 peppers. If 9 peppers have been picked, how many ears of corn have been picked?

# GRADE 6

# TERM 1: REVISION

## *Chapter 2: Summary*



## Fractions, Decimals & Percents

- DECIMALS AND FRACTIONS
- PERCENTS AND FRACTIONS
- PERCENT AND DECIMALS
- PERCENTS GREATER THAN 100% AND PERCENTS LESS THAN 1%
- COMPARE AND ORDER FRACTIONS, DECIMALS, AND PERCENTS
- ESTIMATE WITH PERCENTS
- PERCENT OF A NUMBER
- SOLVE PERCENT PROBLEMS

# DECIMALS AND FRACTIONS

## Place Value

|          |      |      |        |            |             |                 |
|----------|------|------|--------|------------|-------------|-----------------|
| 1        | 2    | 3    | 4      | 5          | 6           | 7               |
| Hundreds | Tens | Ones | Tenths | Hundredths | Thousandths | Ten-Thousandths |

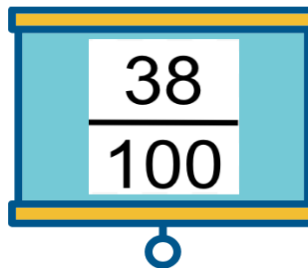
Write 0.38 as a fraction in its simplest form.

|          |      |      |        |            |             |
|----------|------|------|--------|------------|-------------|
| 0        | 0    | 0    | 3      | 8          | 0           |
| Hundreds | Tens | Ones | Tenths | Hundredths | Thousandths |

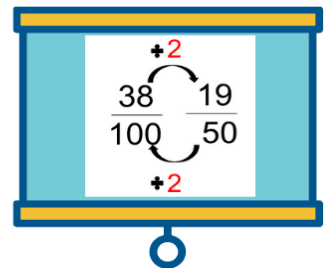


The decimal 0.38 is to the hundredths.

Rewrite the decimals as a fraction

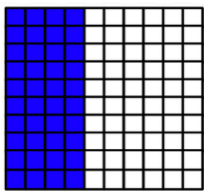


Simplify, if possible



## PERCENTS AND FRACTIONS

WRITE 40% AS A FRACTION IN SIMPLEST FORM.



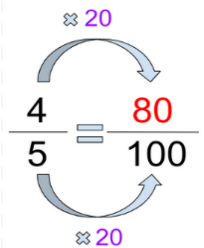
Rewrite the percent as a fraction over 100.

$$\frac{40}{100}$$

Simplify, if possible

$$\frac{40 \div 20}{100 \div 20} = \frac{2}{5}$$

WRITE THE FRACTION  $\frac{4}{5}$  AS A PERCENT.



Find the equivalent ratio with denominator of 100.

## PERCENTS AND DECIMALS

WRITE 75% AS A DECIMAL.

75%

Move the decimal point 2 places to the right

WRITE 0.25 AS A PERCENT.

.25

Move the decimal point 2 places to the left

WRITE 4% AS A DECIMAL.

4%

.4

2 places  
Drop the % sign

0.04

Place a 0 in each empty spot

## SOLVE PERCENT PROBLEMS

$$\frac{\text{Part}}{\text{Whole}} = \frac{\boxed{\phantom{000}}}{100}$$

Percent

Identify what is given and solve for the missing value

# PERCENTS GREATER THAN 100% AND PERCENTS LESS THAN 1%

## PERCENTS GREATER THAN 100%

1. Write as a fraction.
2. Separate the number in the numerator.
3. Write as a mixed number.
4. Simplify the fraction part.

## PERCENTS LESS THAN 1%

1. Divide to remove the percent sign.
2. Rewrite as a fraction.
3. Simplify the fraction part.
4. Rewrite as a decimal

# COMPARE AND ORDER FRACTIONS, DECIMALS, AND PERCENTS

To compare use the following symbols:

greater than



less than



Equal to



THE STEPS

1. WRITE THE NUMBERS IN THE SAME FORM.
2. COMPARE OR ORDER.
3. REWRITE EACH NUMBER IN THE ORIGINAL FORM.

For fractions **CHECK** if the denominators are the **SAME**.

## ESTIMATE WITH PERCENTS

Use the percent estimator to determine what number to round to when estimating percents.

## PERCENT OF A NUMBER

Find 0.3% of 48

0.003 of 48

Use the decimal version of 0.3%

$$0.003 \times 48$$

"Of" means multiply

0.144

$$\begin{array}{r} 0.003 \\ \times \quad 48 \\ \hline 0024 \\ + 0012 \\ \hline 00.144 \end{array}$$

Percent Estimator



Divide by 4



Divide by 5



Divide by 10

# Chapter 2: "Fractions, Decimals, and Percent"

## *Lesson 1: Decimals and Fractions*

**Write each decimal as a fraction in simplest form.**

1. 0.7 \_\_\_\_\_

2. 0.09 \_\_\_\_\_

3. 0.065 \_\_\_\_\_

4. 0.25 \_\_\_\_\_

5. 0.75 \_\_\_\_\_

6. 0.0045 \_\_\_\_\_

7. 0.844 \_\_\_\_\_

8. 13.09 \_\_\_\_\_

Write each fraction or mixed number as a decimal.

9.  $\frac{6}{8}$  \_\_\_\_\_

10.  $9\frac{4}{8}$  \_\_\_\_\_

11.  $\frac{13}{260}$  \_\_\_\_\_

12.  $7\frac{26}{80}$  \_\_\_\_\_

13. The school is 0.5 km away from home. Write this decimal as a fraction.

14. An orange is approximately  $\frac{3}{5}$  the size of another larger orange. Write the fraction as a decimal.

## Lesson 2: Percents and Fractions

Write each percent as a fraction in simplest form.

1. 20 % \_\_\_\_\_

2. 75% \_\_\_\_\_

3. 25% \_\_\_\_\_

4. 45% \_\_\_\_\_

5. 80% \_\_\_\_\_

**Write each fraction as a percent.**

6.  $\frac{16}{40}$  \_\_\_\_\_

7.  $\frac{15}{45}$  \_\_\_\_\_

8.  $\frac{1}{5}$  \_\_\_\_\_

9.  $\frac{7}{50}$  \_\_\_\_\_

10.  $\frac{3}{20}$  \_\_\_\_\_

**11. Hamdan ate 35% of his candy. Write the percent as a fraction in simplest form.**

**12. Khalid got a 15 % discount on a new t-shirt. Write the percent as a fraction in simplest form.**

13. 65% of the children went on a field trip. Write the percent as a fraction in simplest form.

Look at the table below and answer the questions below. The table shows the fraction of students that like to eat different flavors of cake.

| Students  | Chocolate      | Vanilla        | Banana         | Peanut Butter  |
|-----------|----------------|----------------|----------------|----------------|
| Cake type | $\frac{5}{12}$ | $\frac{4}{12}$ | $\frac{2}{12}$ | $\frac{1}{12}$ |

14. What is the percent of students that like chocolate? \_\_\_\_\_

15. What is the percent of students that like Vanilla? \_\_\_\_\_

### *Lesson 3: Percents and Decimals*

Write each percent as a decimal.

1. 5% \_\_\_\_\_

2. 70% \_\_\_\_\_



3. 85% \_\_\_\_\_

4. 68% \_\_\_\_\_

5. 99% \_\_\_\_\_

**Writes each decimal as a percent.**

6. 0.65 \_\_\_\_\_

7. 0.25 \_\_\_\_\_

8. 0.8 \_\_\_\_\_

9. 0.63 \_\_\_\_\_

10. 0.42 \_\_\_\_\_

11. A toy was on a 36% percent discount. **Write the percent as a decimal.**

12. Mahmoud ate 0.65 of a bag of candy. **Write the decimal as a percent.**

***Lesson 4: Percents Greater than 100% and Percents Less than 1%***

**Write each percent as a decimal.**

1. 700% \_\_\_\_\_

2. 0.05% \_\_\_\_\_

3. 650% \_\_\_\_\_

4. 0.345% \_\_\_\_\_

Write each percent as a mixed number or a fraction in simplest form.

5. 250% \_\_\_\_\_

6. 0.95% \_\_\_\_\_

7. 0.60% \_\_\_\_\_

8. 185% \_\_\_\_\_

Write each decimal as a percent.

9. 3.5 \_\_\_\_\_

10. 3.83 \_\_\_\_\_

11. 75.4 \_\_\_\_\_

12. 6.95 \_\_\_\_\_

Write each fraction or mixed fraction as a percent.

13.  $7\frac{3}{4}$  \_\_\_\_\_

14.  $\frac{1}{300}$  \_\_\_\_\_

15. The number of students will increase by  $2\frac{3}{5}$  in the next two years. Write the mixed fraction as a percent.

*Lesson 5: Compare and Order Fractions, Decimals, and Percents*

Compare and place a greater than, equal to or less than sign.

1.  $\frac{2}{5}$  \_\_\_\_\_  $\frac{4}{5}$

2.  $4\frac{1}{8}$  \_\_\_\_\_  $\frac{7}{8}$

3.  $\frac{9}{12}$  \_\_\_\_\_  $2\frac{1}{4}$

4. 0.3125 \_\_\_\_\_  $\frac{6}{15}$

**Order the fractions from least to greatest.**

5.  $\frac{7}{4}$ ,  $\frac{6}{12}$ ,  $\frac{4}{6}$ ,  $\frac{5}{6}$

\_\_\_\_\_

6.  $\frac{2}{3}$ ,  $\frac{7}{9}$ ,  $\frac{2}{9}$ ,  $\frac{1}{3}$

\_\_\_\_\_

**Order the decimals from greatest to least.**

7. 0.9877, 0.09877, 0.009877, 9.877

\_\_\_\_\_

8. 2.45, 3.67, 4.98, 4.22

\_\_\_\_\_

**Order the set of values from least to greatest.**

9.  $0.5, \frac{6}{24}, 48\%$

---

10.  $0.85, \frac{6}{8}, 35\%$

---

11. The scores on a Math test in three different sections were  $0.8, \frac{3}{5}, 78\%$ , Compare the scores from greatest to least.

12. The transportation in a city includes 3 different types. 40% drive a car, 0.67 drive a bicycle and  $\frac{24}{40}$  take the bus. Compare the types of transportation from least to greatest.

## *Lesson 6: Estimate with Percents*

**Estimate each percent.**

1. 17% of 52 \_\_\_\_\_

2. 19% of 95 \_\_\_\_\_

3. 96% of 310 \_\_\_\_\_

4. 66% of 812 \_\_\_\_\_

**Estimate using rate per 100.**

5. 16% of 196 \_\_\_\_\_
6. 21% of 324 \_\_\_\_\_
7. 18% of 433 \_\_\_\_\_
8. 7% of 507 \_\_\_\_\_
9. A grade-level has 179 students. About 56% of the students have 3 siblings. Estimate the number of students that have 3 siblings.
  
10. Adel wants to lose 12% of his body fat. If he weighs 112 kilograms. Estimate the amount of body fat in kilograms that he will need to lose.

***Lesson 7: Percent of a Number***

**Find the percent of each number.**

1. 20% of 355 \_\_\_\_\_
2. 35% of 250 \_\_\_\_\_
3. 75% of 360 \_\_\_\_\_
4. 0.25% of 360 \_\_\_\_\_
5. 0.65% of 80 \_\_\_\_\_
6. 0.05% of 15000 \_\_\_\_\_

7. A shirt costs AED 255. There is a 25% discount.

Percent discount  $\times$  cost of shirt = \_\_\_\_\_

8. Ali got a 155% increase in money from his parents at the end of his allowance. If his allowance is AED 160 per month.

Percent increase  $\times$  allowance per month \_\_\_\_\_

## *Lesson 8: Solve Percent Problems*

**Solve each of the following:**

1. 25 is 30% of what number? \_\_\_\_\_

2. 5 is 25% of what number? \_\_\_\_\_

3. 18 is 35% of what number? \_\_\_\_\_

4. 65 is 75% of what number? \_\_\_\_\_

5. 40 is 8% of what number? \_\_\_\_\_

6. 65 is 50% of what number? \_\_\_\_\_

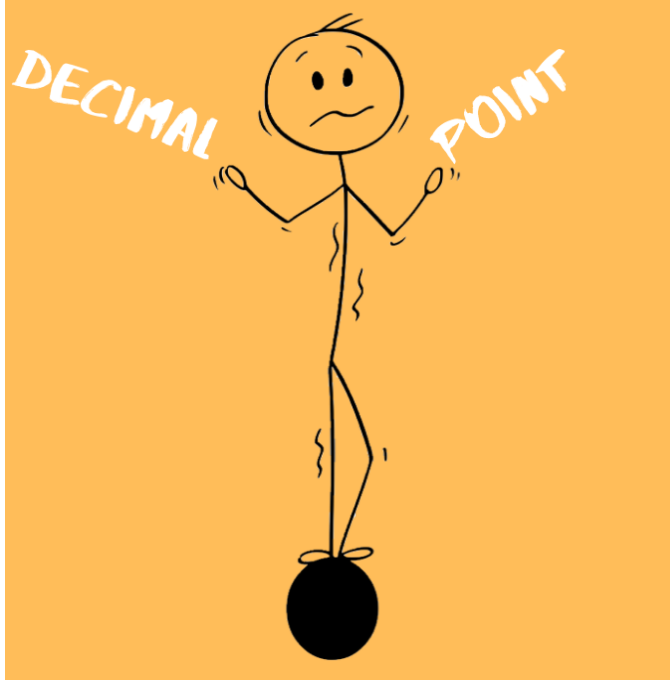
7. 34 is 17% of what number? \_\_\_\_\_

8. 63 is 7% of what number? \_\_\_\_\_

# GRADE 6

# TERM 1: REVISION

## *Chapter 3: Summary*



## Compute with Multi-digit Numbers

- **ADD AND SUBTRACT DECIMALS**
- **ESTIMATE PRODUCTS AND QUOTIENTS**
- **MULTIPLY DECIMALS BY WHOLE NUMBERS**
- **MULTIPLY DECIMALS BY DECIMALS**
- **DIVIDE MULTI-DIGIT NUMBERS**
- **DIVIDE DECIMALS BY DECIMALS**
- **DIVIDE DECIMALS BY WHOLE NUMBERS**



## ADDING AND SUBTRACTING DECIMALS

$$\begin{array}{r} \overset{1}{47.18} \\ + \overset{1}{9.13} \\ \hline 56.31 \end{array}$$

$$\begin{array}{r} \overset{1}{98.00} \\ + \overset{1}{23.45} \\ \hline 121.45 \end{array}$$

LINE UP YOUR  
DECIMALS.

THEN ADD OR  
SUBTRACT.

PLACE A ZERO IN  
EMPTY SPACES.

$$\begin{array}{r} \overset{5}{7.02} \\ - \overset{12}{3.48} \\ \hline 4.14 \end{array}$$

$$\begin{array}{r} \overset{4}{51.00} \\ - \overset{10}{38.75} \\ \hline 12.25 \end{array}$$

## ESTIMATE PRODUCTS

$$\begin{array}{r} 63.3 \longrightarrow 60 \\ \times 39.8 \longrightarrow \times 40 \\ \hline 2,400 \end{array}$$

ROUND TO THE  
GREATEST VALUE

MULTIPLY

$$63.6 \times 39.8 \approx 2,400$$

## MULTIPLY DECIMALS BY WHOLE NUMBERS

Multiply the factors.

$$\begin{array}{r} 9.6 < \dots 1 \text{ DECIMAL PLACE} \\ \times 14 < \dots \text{ZERO DECIMAL} \\ \hline 384 \\ + 960 \\ \hline 134.4 < \dots 1 \text{ DECIMAL PLACE IN} \\ & \text{THE PRODUCT} \end{array}$$

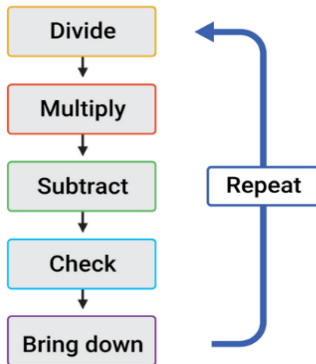
## MULTIPLY DECIMALS BY DECIMALS

Multiply the factors.

$$\begin{array}{r} \overset{3}{3.6} \text{ } \leftarrow 1 \text{ decimal place} \\ \times \overset{1}{0.5} \text{ } \leftarrow 1 \text{ decimal place} \\ \hline 180 \\ + 000 \\ \hline 180 \end{array}$$

2 decimal places total

## DIVIDE MULTI-DIGIT NUMBERS



$$\begin{array}{r}
 31 \\
 4 \overline{)124} \\
 \underline{-12} \phantom{0} \\
 04 \\
 \underline{-4} \\
 0
 \end{array}$$

You may have to combine the digits in the dividend before dividing

$$\begin{array}{r}
 91 \\
 46 \overline{)4191} \\
 \underline{-414} \phantom{0} \\
 51 \\
 \underline{-46} \\
 5
 \end{array}$$

## DIVIDE DECIMALS BY DECIMALS

Change the divisor to a whole number.

Multiply by 100 to change into a whole number.

$$\begin{array}{r}
 0.12 \overline{)5.16}
 \end{array}$$

Multiply by the same number.

Rewrite the problem.

$$12 \overline{)516}$$

Divide.

$$\begin{array}{r}
 43 \\
 12 \overline{)516} \\
 \underline{-48} \phantom{0} \\
 36 \\
 \underline{-36} \\
 00
 \end{array}$$

## DIVIDE DECIMALS BY WHOLE NUMBERS

Divide.

$$\begin{array}{r}
 0.6 \\
 4 \overline{)2.4} \\
 \underline{-0} \phantom{0} \\
 24 \\
 \underline{-24} \\
 0
 \end{array}$$

Place the decimal in the quotient.

## ESTIMATE PRODUCTS

To estimate quotients:

- Use compatible numbers
- Round to the nearest whole number to make compatible number

$$88 \div 10.55 \approx$$

$$88 \div 11 = 8$$

# Chapter 3: Compute with Multi-Digit Numbers

## *Lesson 1: Add and Subtract Decimals*

1. Find each sum or difference.

a)  $1.532 + 0.04$

b)  $0.002 + 0.1571$

c)  $100.8 + 27$

d)  $58.9 - 43.6$

e)  $21.31 - 7.03$

f)  $63 - 5.04$

2. Lateefa bought groceries for AED 207.24 and new shoes for AED 89.36. How much did Lateefa spend on groceries and shoes altogether?
  
3. Sultan buys 12.25 kg of potatoes and 4.05 kg of corn. What is the difference between the 2 weights?

## *Lesson 2: Estimate Products*

### **1. Estimate each product.**

a)  $2.12 \times 8.4$

b)  $21.7 \times 13.8$

c)  $54.2 \times 17$

d)  $2.4 \times 15$

e)  $54 \times 3.1$

f)  $95 \times 3.1$

2. Use estimation to determine whether each answer is reasonable. If the answer is reasonable, write *yes*. If not, write *no* and provide a reasonable estimate.

a)  $2,103 \times 24 = 50,472$

b)  $42.8 \times 65 = 24,300$

3. Fahed can bike about 17.6 kilometers per hour. About how many kilometers can he ride in 2.6 hours?

4. The prices in the table show the cost per hour of each activity at the Fun Zone. About how much would it cost for 6 people to play mini football?

|               |           |
|---------------|-----------|
| Mini football | AED 54.25 |
| Karting       | AED 43.75 |
| Ice Skating   | AED 34.50 |

5. A cake recipe calls for 49.8 grams of sugar. About how many grams of sugar would you need for 12 cakes?

### *Lesson 3: Multiply Decimals by Whole Numbers*

**1. Multiply.**

a)  $0.4 \times 7$

b)  $0.9 \times 32$

c)  $2.7 \times 5$

d)  $8.6 \times 41$

e)  $51 \times 8.12$

f)  $92 \times 0.108$

2. Al Anood buys 24 pencils. Each pencil costs AED 3.25. Find the total cost.
3. Store A sells cupcakes for AED 5.50 each, and store B sells each cupcake for AED 5.75. If Salem buys a dozen cupcakes, how much can he save by buying them from Store A instead of store B?

## *Lesson 4: Multiply Decimals by Decimals*

### **1. Multiply.**

a)  $0.5 \times 0.7$

b)  $4.4 \times 2.3$

c)  $2.05 \times 7.1$

d)  $12.54 \times 81.52$

e)  $41.05 \times 11.004$

f)  $0.062 \times 61.5$

2. A factory produces 12.5 tons of cheese per day. How much cheese will the factory produce in 12.5 days?
3. Dragon Fruit cost AED 17.50 per kilogram at a local market. Find the total cost of 6.6 kilograms.

## *Lesson 5: Divide Multi-digit Numbers*

### **1. Find each quotient.**

a)  $4,761 \div 45$

b)  $7,532 \div 18$

c)  $216 \div 12$

d)  $6,902 \div 54$

e)  $7,920 \div 71$

2. Salama is reading a book that has 750 pages. She has 15 days to finish the book. If Salama reads the same number of pages each day, how many pages should she read each day?



3. The football team is raising money to have new uniforms. The cost of the team uniforms is AED 5,760. The team has 12 months to raise the money. How much do they need to raise each month?
  
4. A plane travels at a constant speed of 880 kilometers per hour, how long will it take the plane to travel 5,280 kilometers?

## *Lesson 6: Estimate Quotients*

### **1. Estimate each quotient.**

a)  $9.8 \div 2.3$

b)  $12.8 \div 5.8$

c)  $88.4 \div 11.2$

d)  $74.6 \div 25$

e)  $123.9 \div 11.2$

f)  $369.1 \div 6.2$

**2.** Use estimation to determine whether each answer is reasonable. If the answer is reasonable, write *yes*. If not, write *no* and provide a reasonable estimate.

a)  $37.4 \div 18.8 = 4$

b)  $126.2 \div 25.9 = 5$

**3.** Zara walks 18.2 kilometers in 3.6 hours. Estimate her speed in kilometers per hour.

## *Lesson 7: Divide Decimals by Whole Numbers*

**1. Divide. Round to the nearest tenth if necessary.**

a)  $24.6 \div 4$

b)  $145.7 \div 7$

c)  $76.83 \div 13$

d)  $43.28 \div 18$

e)  $102.5 \div 15$

f)  $162.24 \div 12$

2. Saleh wants to figure out what grade he is getting in math. His test scores were 75.8, 92.2, 87, 69.5, and 88.7. What was his average test score? What grade will he receive?

| Grade | Average Score |
|-------|---------------|
| A     | 90 – 100      |
| B     | 80 – 89       |
| C     | 70 – 79       |
| D     | 60 – 69       |
| F     | 0 – 59        |

3. There are 15 servings in a 420.5-grams box of cereals. How many grams are in a serving?

4. Ahmed, Hamed, Zayed, and Sultan are splitting their dinner bill equally. The total is AED 430.25. How much does each of them pay for dinner?

## Lesson 8: Divide Decimals by Decimals

### 1. Divide.

a)  $15.64 \div 2.3$

b)  $18.21 \div 0.9$

c)  $0.015 \div 0.05$

d)  $0.915 \div 7.5$

e)  $11.9 \div 1.2$

f)  $0.0254 \div 0.008$

2. Meera has 55.2 kg of sugar. She wants to divide them evenly in small bags. Each bag can hold 1.2 kg of sugar. How many bags does she need?

3. Zayed has AED 672.60. He wants to buy movie tickets. Each ticket costs AED 35.40. How many tickets can he buy?

# GRADE 6 TERM 1: REVISION

## *Chapter 4: Summary*



## Multiply & Divide Fractions

- ESTIMATE PRODUCTS OF FRACTIONS
- MULTIPLY FRACTIONS BY WHOLE NUMBERS
- MULTIPLY FRACTIONS
- MULTIPLY MIXED NUMBERS
- CONVERT MEASUREMENT UNITS
- DIVIDE WHOLE NUMBERS BY FRACTIONS
- DIVIDE FRACTIONS
- DIVIDE MIXED NUMBERS

## ESTIMATE PRODUCT OF FRACTIONS

To estimate:

- Use compatible numbers
- Round to the nearest whole number to make compatible number

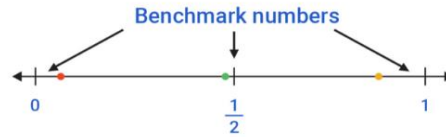
$$\begin{array}{l}
 19 \times \frac{3}{4} \\
 \approx \frac{5}{20} \times \frac{3}{4} \\
 = 5 \times 3 \\
 = 15
 \end{array}$$

Change 19 to a close multiple of 4

Simplify. Divide 20 and 4 by 4

Multiply.

**Benchmark Number** is a number that can be used to help make estimates.



When estimating with fractions, we can round each fraction to a benchmark number of 0,  $\frac{1}{2}$ , or 1

**EXAMPLE**

$$\begin{array}{l}
 \frac{11}{12} \times \frac{5}{9} \\
 \approx 1 \times \frac{1}{2} = \frac{1}{2}
 \end{array}$$

Converting mixed numbers to improper fractions

$$\begin{array}{l}
 \textcircled{17} \\
 + \\
 5 \frac{2}{3} = \frac{17}{3} \\
 \times \\
 3
 \end{array}$$

Step 1: Multiply the denominator of the fraction by the whole number.

Step 2: Add the product to the numerator.

Step 3: Then write that result above.

Step 4: Keep the denominator same as that of the fraction.

## MULTIPLY MIXED NUMBERS

Rewrite the mixed numbers to improper fractions.

Simply using the GCF, if possible.

Multiply the numerators and then the denominators.

## MULTIPLY FRACTIONS BY WHOLE NUMBERS

$$3 \times \frac{1}{6} = \text{Change the whole number to a fraction and then multiply}$$

$$\frac{3}{1} \times \frac{1}{6} = \text{Multiply the numerators and then the denominators.}$$

$$\begin{array}{l}
 \frac{3 \div 3}{6 \div 3} = \text{Simply using the GCF.} \\
 \frac{1}{2}
 \end{array}$$

## MULTIPLY FRACTIONS

Simply using the GCF, if possible.

Multiply the numerators and then the denominators.

## DIVIDE FRACTIONS BY MIXED NUMBERS

**Step 1:**  
REWRITE MIXED NUMBER  
AS IMPROPER FRACTIONS

**Step 2:**  
KEEP CHANGE FLIP

**Step 3:**  
SIMPLIFY AND SOLVE

*Write the  
answer in  
simplest form.*

**Step 1:**

$$6\frac{1}{2} \div \frac{3}{2} = \frac{13}{2} \div \frac{3}{2} =$$

**Step 2:**

$$\frac{13}{2} \times \frac{2}{3} =$$

**Step 3:**

$$\frac{13}{2} \times \frac{2}{3} = \frac{13}{1} \times \frac{1}{3} =$$

$$\frac{13}{1} \times \frac{1}{3} = \frac{13}{3} = 4\frac{1}{3}$$

## DIVIDE FRACTIONS

**Step 1:**

KEEP CHANGE FLIP

**Step 2:**

SOLVE

*Write the answer  
in simplest form.*

## DIVIDE FRACTIONS BY WHOLE NUMBERS

**Step 1:**

REWRITE THE WHOLE  
NUMBER AS A FRACTION

**Step 2:**

KEEP CHANGE FLIP

**Step 3:**

SOLVE

$$\frac{5}{9} \div \frac{1}{10} = \frac{5}{9} \times \frac{10}{1} = \frac{50}{9} = 5\frac{5}{9}$$

$$5 \div \frac{4}{9} = \frac{5}{1} \div \frac{4}{9} = \frac{5}{1} \times \frac{9}{4} = \frac{45}{4} = 11\frac{1}{4}$$

## CONVERT MEASUREMENT UNITS

### EXAMPLE

$$\frac{15 \text{ cups}}{2} \times \frac{1 \text{ pint}}{2 \text{ cups}}$$

$$\frac{15}{2} \times \frac{1 \text{ pint}}{2} = \frac{15 \text{ pints}}{4} = 3\frac{3}{4} \text{ pints}$$

Find the unit ratio

Set up the problem  
and simplify.

Multiply and write in  
simplest form

## RECIPROCAL

$$\frac{3}{4} \rightarrow \frac{4}{3}$$

# Chapter 4: Multiply and Divide Fractions

## *Lesson 1: Estimate Products of Fractions*

**Estimate each product.**

1.  $\frac{1}{2} \times 28$

2.  $\frac{1}{4} \times 20$

3.  $\frac{1}{5}$  of 83

4.  $\frac{1}{7}$  of 47

5.  $\frac{5}{2} \times 23$

6.  $\frac{2}{7} \times 76$



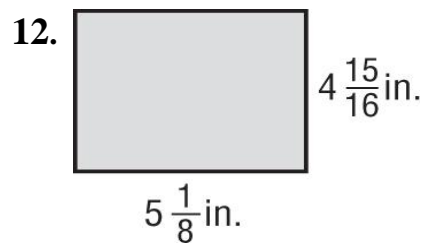
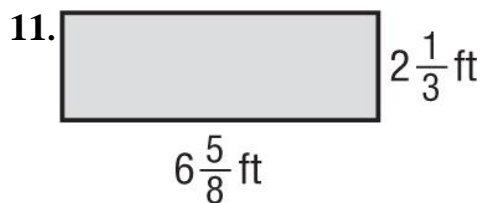
7.  $\frac{2}{5}$  of 37

8.  $\frac{6}{7}$  of 51

9.  $\frac{3}{5} \times \frac{2}{9}$

10.  $\frac{7}{8} \times \frac{4}{5}$

Estimate the area of each rectangle.



## Lesson 2: Multiply Fractions by Whole Numbers

Multiply. Write in simplest form.

1.  $15 \times \frac{1}{15}$

2.  $45 \times \frac{1}{3}$

3.  $15 \times \frac{2}{3}$

4.  $24 \times \frac{3}{8}$

5.  $20 \times \frac{3}{4}$

6.  $11 \times \frac{9}{10}$

## Problem Solving

1. At a charity bike rally,  $\frac{2}{3}$  of the student population in a Cycle 2 School participated. If there are 1,200 students in the school, how many participated?
2. At a local sea, there were 48 jellyfish lying on top of the sea. If  $\frac{5}{6}$  of the jellyfish were asleep, how many were *not* asleep?

## Lesson 3: Multiply Fractions

**Multiply. Write in simplest form.**

1.  $\frac{1}{4} \times \frac{4}{5}$

2.  $\frac{7}{8} \times \frac{2}{14}$

3.  $\frac{1}{2} \times \frac{3}{4}$

4.  $\frac{3}{2} \times \frac{1}{9}$

5.  $\frac{1}{33} \times 11$

6.  $\frac{5}{7} \times 21$

## Problem Solving

1. Of the sixth graders in a school,  $\frac{4}{5}$  play at least one sport. Of those,  $\frac{2}{3}$  play on a team. What fraction of the sixth graders play a sport on a team?

## Lesson 4: Multiply Mixed Numbers

**Multiply.** Write in simplest form.

1.  $\frac{4}{5} \times 3\frac{1}{8}$

2.  $\frac{9}{10} \times 3\frac{1}{3}$

3.  $1\frac{3}{5} \times \frac{3}{5}$

4.  $\frac{2}{3} \times 3\frac{1}{4}$

5.  $\frac{3}{4} \times 2\frac{2}{3}$

6.  $1\frac{1}{4} \times 2\frac{2}{3}$

7.  $5\frac{1}{3} \times 2\frac{1}{4}$

8.  $2\frac{1}{5} \times 1\frac{1}{4}$

### *Problem Solving*

1. A lumber yard has a sheet of plywood that is  $23\frac{3}{4}$  inches By  $41\frac{1}{5}$  inches. What is the area of the plywood?
2. A planter box in the city plaza measures  $3\frac{2}{3}$  feet by  $4\frac{1}{8}$  feet By  $2\frac{1}{2}$  feet. Find the volume of the planter box.
3. Samer plans on eating  $1\frac{1}{4}$  cups of tuna per day for five days. How much tuna does he need? Are 4 cans enough?

### *Lesson 5: Convert Measurement Units*

**Complete.**

1. 4 lb. =                      oz.

2. 24 ft. = yd.

3.  $1\frac{1}{2}$  pt = c

4. 64 oz. = lb.

5.  $2\frac{3}{4}$  mi = ft

6. 3,000 lb. = T

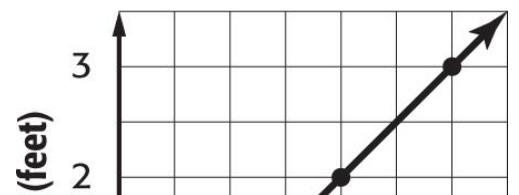
7. 5 gal. = qt.

8.  $3\frac{1}{4}$  qt = pt.

## Problem Solving

1. The track surrounding an indoor football field is  $\frac{1}{5}$  of a mile long. How many yards long is the track?
2. One quart of strawberries weighs about 2 pounds. About how many quarts of strawberries would weigh  $\frac{1}{2}$  of a ton?

Use the graph shown.



**A.** What does an ordered pair from this graph represent?

**B.** Write two sentences that describe the graph.

**C.** Explain how you could use the graph to find the length in inches of a 1.5 *ft.* iguana.

## Lesson 6: Divide Whole Numbers by Fractions

**Find the reciprocal of each number.**

1.  $\frac{3}{8}$

3.  $\frac{1}{9}$

5.  $\frac{8}{13}$

2.  $\frac{5}{3}$

4.  $\frac{2}{7}$

**Divide. Write the quotient in simplest form.**

6.  $2 \div \frac{1}{4}$

7.  $2 \div \frac{6}{15}$

8.  $3 \div \frac{15}{4}$

9.  $4 \div \frac{1}{20}$

10.  $4 \div \frac{1}{14}$

## Problem Solving

1. For a party, 40 sandwiches are being made. If each sandwich is cut into thirds, how many sandwich pieces will there be in total?
2. An average ant is  $\frac{1}{4}$  inches long. A picnic blanket is 72 inches long. How many ants will equal the length of the picnic blanket?
3. Mahmoud cuts a 60-inch-long wire into pieces that are  $\frac{3}{4}$  inches long. How many pieces does he have?

## Lesson 7: Divide Fractions

**Divide. Write the quotient in simplest form.**

1.  $\frac{2}{7} \div \frac{1}{7}$

2.  $\frac{1}{9} \div \frac{2}{3}$



3.  $\frac{3}{8} \div \frac{1}{2}$

4.  $\frac{2}{3} \div \frac{1}{6}$

5.  $\frac{1}{2} \div \frac{2}{5}$

6.  $\frac{2}{3} \div \frac{1}{4}$

7.  $\frac{3}{4} \div \frac{1}{10}$

8.  $\frac{2}{5} \div \frac{1}{4}$

## Problem Solving

1. An average ant is  $\frac{1}{8}$  inches long. An average aphid is  $\frac{3}{32}$  inches long. How many times longer is an average ant than an average aphid?
2. A field has an area of  $\frac{9}{20}$  square miles. Find the width of the field if the length is  $\frac{9}{10}$  miles long. (**A= length x width**)

## Lesson 8: Divide Mixed Numbers

**Divide. Write the quotient in simplest form.**

1.  $2 \div 3\frac{2}{3}$

2.  $10 \div 1\frac{1}{4}$

3.  $4\frac{3}{4} \div \frac{7}{8}$

4.  $14\frac{15}{16} \div \frac{7}{8}$

5.  $7\frac{1}{2} \div 1\frac{1}{4}$

6.  $3\frac{3}{8} \div 2\frac{1}{4}$

## Problem Solving

1. Suppose a hurricane traveled 130 miles from a point in the Atlantic Ocean to the Florida coastline in  $6\frac{1}{2}$  hours. How many miles per hour did the hurricane travel?

2. How many  $\frac{3}{4}$ -ft of pipe can be cut from a  $6\frac{1}{3}$ -ft pipe?

3. A truck driver drove 300 miles in  $6\frac{3}{4}$  hours. How many miles per hour did the driver drive?

4. A bag contains  $22\frac{1}{2}$  cups of flour. A recipe for pancakes uses  $1\frac{1}{4}$  cups of flour. How many batches of pancakes can be made with one bag of flour?

### Mock Exam 1

**Find the greatest common factor or the least common multiple of each set of numbers.**

Circle the correct answer.

1. Find the GCF of 16 and 32.

- a) 4
- b) 8
- c) 16
- d) 32

2. Find the LCM of 12 and 20.

- a) 60
- b) 30
- c) 20
- d) 40

3. Write 261 miles in 3 hours as a unit rate. **(Circle the correct answer.)**

- a) 87 miles/hour
- b) 258 miles/hour
- c) 29 miles/hour
- d) 783 miles/hour

**Complete the following:**

4.  $\frac{11}{50} = \frac{33}{\quad}$

5. Out of 30 students surveyed, 17 have a cat. Based on these results, predict how many of the 300 students in the school have a cat?

6. Mustafa can read at a rate of 1,100 words in 5 minutes. How many pages can Mustafa read in one minute?

- a) 200 words/minute
- b) 120 words/minute
- c) 110 words/minute
- d) 220 words/minute

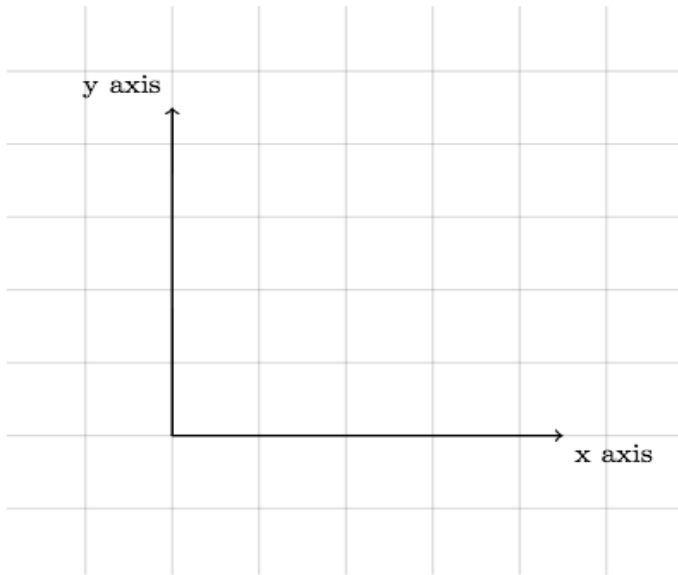
7. To make 5 apple pies, you need about 2 kg of apples. How many kilograms of apples do you need to make 20 apple pies? (Complete the table to get the right answer).

|                |   |   |    |
|----------------|---|---|----|
| Number of Pies | 5 | ? | 20 |
| Kgs. of Apples | 2 | ? | ?  |

The table shows the total time it took Laila to read 0, 1, 2 and 3 pages of a book.

| Laila's Reading      |                       |                      |
|----------------------|-----------------------|----------------------|
| No. of Pages, X-axis | Total Minutes, Y-axis | Ordered Pair, (x, y) |
| 0                    | 0                     | (0, 0)               |
| 1                    | 4                     | (1, 4)               |
| 2                    | 8                     | (2, 8)               |
| 3                    | 12                    | (3, 12)              |

8. Graph the ordered pairs.



9. Describe the pattern in the graph.

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Write each fraction as a decimal and each decimal as a fraction in simplest form.

10.  $0.82 =$  \_\_\_\_\_

11.  $0.64 =$  \_\_\_\_\_

Write each percent as a decimal and each decimal as a percent. (Circle the correct answer.)

12.  $98\% =$  \_\_\_\_\_

- a) 9.8
- b) 98.0
- c) 0.98
- d) 0.098

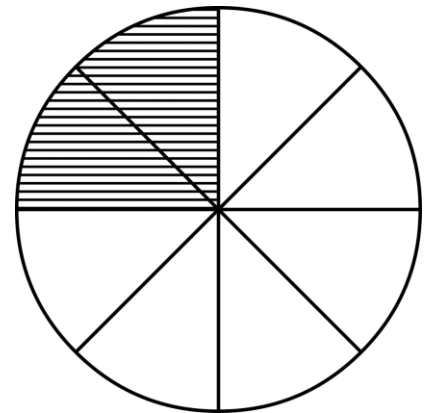
13.  $216\% =$  \_\_\_\_\_

- a) 2.16
- b) 0.216
- c) 21.6
- d) 0.0216

14.  $1.25 =$  \_\_\_\_\_

- a) 12.5%
- b) 1.25%
- c) 125%
- d) 1,250%

15. The circle at the right is divided into sections of equal sizes. What percent of the circle is shaded? **(Circle the correct answer.)**



Answer = \_\_\_\_\_ %

- a) 45
- b) 25
- c) 35
- d) 15

Fill in each  with  $<$ ,  $>$  or  $=$  to make a true statement.

16.  $7\%$    $710$

17.  $42\%$    $0.44$

18. Estimate 47% of 692. **(Circle the correct answer.)**

Answer \_\_\_\_\_

- a) 350
- b) 300
- c) 280
- d) 240



19. Estimate 40% of 38 (Circle the correct answer.)

Answer \_\_\_\_\_

- a) 20
- b) 16
- c) 12
- d) 10

Find the percent of each number.

20. 32% of 60 = \_\_\_\_\_

21. 0.44% of 176 = \_\_\_\_\_

22. 145% of 320 = \_\_\_\_\_

23. Rashid spent 60% of his money to buy a new TV. If the TV costs AED 300, how much money did he save?

24. Salman runs 0.75 a mile each day. How far has he run at the end of 6 days?



25. Solve

$$\begin{array}{r} \mathbf{a.} \quad 6.32 \\ + 9.88 \\ \hline \end{array}$$

$$\begin{array}{r} \mathbf{b.} \quad 3.764 \\ - 0.85 \\ \hline \end{array}$$

26.  $53.5 \times 2 =$  \_\_\_\_\_

27.  $0.025 \times 18 =$  \_\_\_\_\_

28.  $3.69 \div 0.3 =$  \_\_\_\_\_

29.  $7.17 \div 100 =$  \_\_\_\_\_

30. Estimate the product of  $9.6 \times 2.7$ . (Circle the correct answer.)

- a) 18
- b) 30
- c) 12
- d) 24

31. Estimate the quotient of  $49.3 \div 7$ . (Circle the correct answer.)

- a) 7
- b) 12
- c) 14
- d) 21

32. A king Cobra has a mass of 8.845 kg. Round the mass to the nearest tenth kilogram.

Answer \_\_\_\_\_



**Estimate the product of each of the following: (Circle the correct answer.)**

33.  $1.5 \times 1.6 =$  \_\_\_\_\_

- a) 5
- b) 2
- c) 6
- d) 3

34. 56 of 19 = \_\_\_\_\_

- a) 1
- b) 0
- c) 12
- d) 2

35. A border is made of 3223 bricks that are 116 meters long. About how long is the border?

**Solve.**

36.  $25 \times 4 =$  \_\_\_\_\_

37.  $34 \times 49 =$  \_\_\_\_\_

38. Multiply:  $134 \times 245$

39. A new shirt costs AED 15. If the shirt is on sale for 15% off its price, about how much would you save? (Circle the correct answer.)

- 1. 3
- 2. 5
- 3. 10
- 4. 2

40. Find the reciprocal of 12. (Circle the correct answer.)

- a) 121
- b) 112
- c) 12%
- d)  $\frac{1}{12}$

**Divide:**

41.  $56 \div 10 =$  \_\_\_\_\_

42.  $16 \div 47 =$  \_\_\_\_\_

43. A box has bags of oranges, each bag of orange weighs 434 kg. How many bags of oranges are in the box if it weighs 2812 kg? (Circle the correct answer.)

- a) 8
- b) 12
- c) 6
- d) 14



## Mock Exam 2

Find the greatest common factor or the least common multiple of each set of numbers.

Circle the correct answer.

1. The greatest common factor of 3, 12, 18 is \_\_\_\_\_.
  - a. 2
  - b. 3
  - c. 8
  - d. 4
2. The least common multiple of 6 and 15 is \_\_\_\_\_.
  - a. 20
  - b. 40
  - c. 50
  - d. 30
3. Write 20 cookies to 35 brownies as a ratio in simplest form. **(Circle the correct answer.)**
  - a. 7 cookies to 4 brownies
  - b. 7 cookies to 15 brownies
  - c. 4 cookies to 7 brownies
  - d. 4 cookies to 15 brownies

**Complete the following:**

4.  $\frac{2}{9} = \frac{28}{72} = \frac{\quad}{\quad}$

5. If 45 cookies will serve 15 students. How many cookies are needed for 30 students? (show your work in the space below).

6. Reem can read at a rate of 1,050 words in 5 minutes. How many pages can Reem read in one minute? **(Circle the correct answer.)**

- a. 200 words/minute
- b. 210 words/minute
- c. 150 words/minute
- d. 220 words/minute

7. To make 6 apple pies, you need about 2 kg of apples. How many kilograms of apples do you need to make 24 apple pies? (Complete the table to get the right answer).

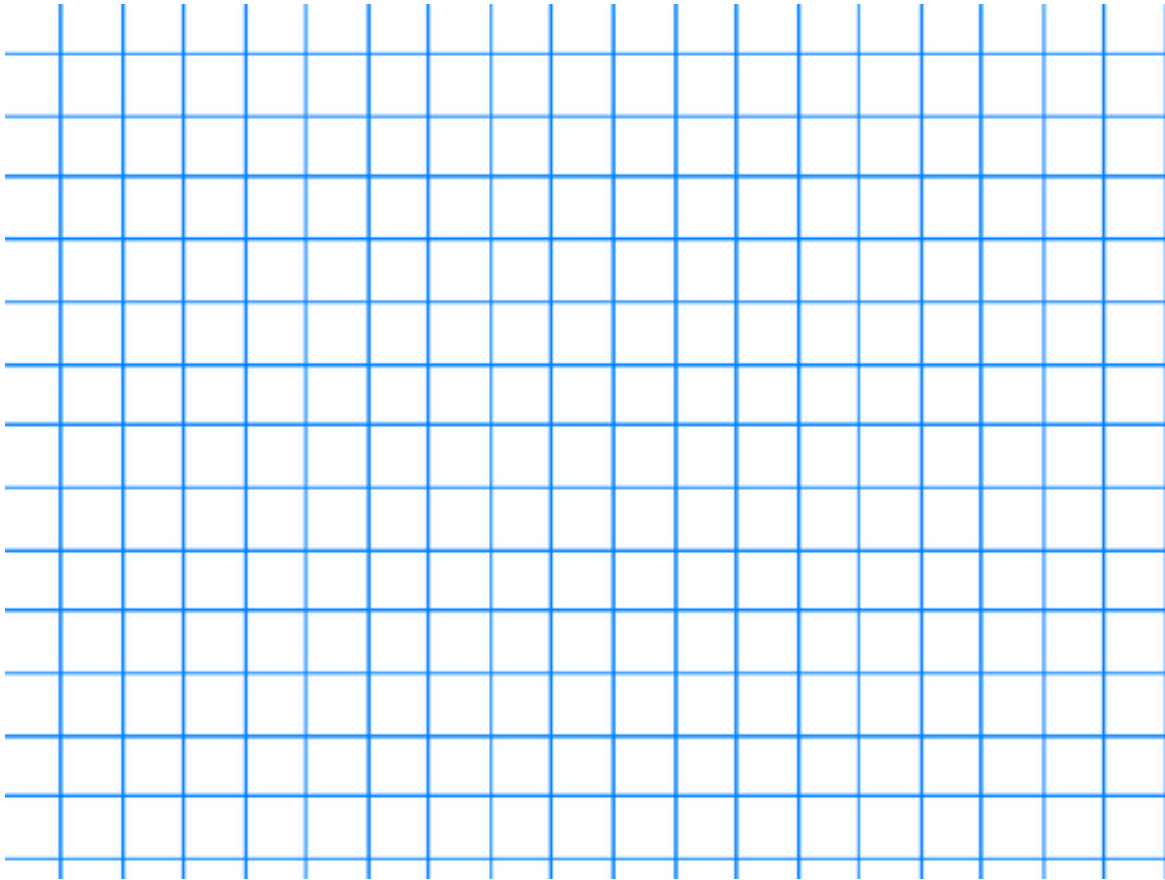
|                |   |   |    |
|----------------|---|---|----|
| Number of Pies | 6 | ? | 24 |
| Kgs. of Apples | 2 | ? | ?  |

8. Two friends are each saving money in their bank accounts. Fatima saves AED 10 each week while Noura saves AED 15 each week.

**Make a table for each friend that shows the total amount saved for 1, 2, 3 and 4 weeks. List all the information as ordered pairs (weeks, total dirhams saved).**

| Fatima        |                           |                      |
|---------------|---------------------------|----------------------|
| Weeks, X-axis | Total Saved (AED), Y-axis | Ordered Pair, (x, y) |
| 1             |                           |                      |
| 2             |                           |                      |
| 3             |                           |                      |
| 4             |                           |                      |
| Noura         |                           |                      |
| Weeks, X-axis | Total Saved (AED), Y-axis | Ordered Pair, (x, y) |
| 1             |                           |                      |
| 2             |                           |                      |
| 3             |                           |                      |
| 4             |                           |                      |

9. Graph the ordered pairs for each friend on the same coordinate plane.



10. Describe the pattern in the graph.

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Write each fraction as a decimal and each decimal as a fraction in simplest form.

11.  $\frac{3}{100} =$  \_\_\_\_\_

12.  $0.05 =$  \_\_\_\_\_

Write each percent as a decimal and each decimal as a percent. (Circle the correct answer.)

13.  $0.3 =$  \_\_\_\_\_

- a. 30%
- b. 300%
- c. 0.3%
- d. 3%

14.  $0.05\% =$  \_\_\_\_\_

- a. 0.005
- b. 0.5
- c. 0.05
- d. 0.0005

Fill in each  with  $<$ ,  $>$  or  $=$  to make a true statement.

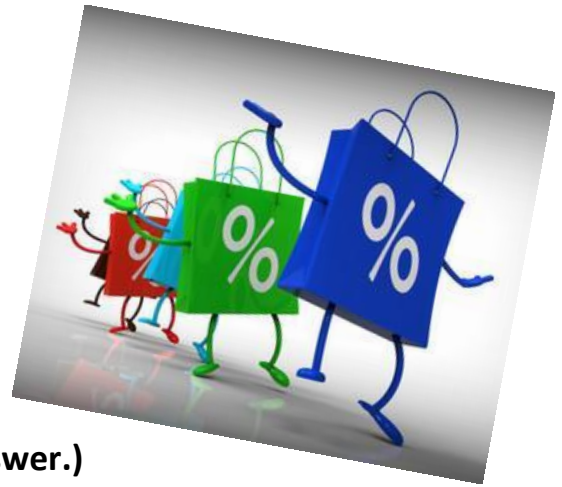
15.  $\frac{5}{8}$    $\frac{7}{12}$

16.  $\frac{3}{4}$    $0.7$

17. Estimate 60% of 27 (Circle the correct answer.)

Answer: \_\_\_\_\_

- a) 18
- b) 12
- c) 9
- d) 21



18. Estimate 67% of AED 296 (Circle the correct answer.)

Answer: \_\_\_\_\_

- a) 210
- b) 175
- c) 180
- d) 150

**Find the percent of each number.**

19. 0.55% of 220 = \_\_\_\_\_

20. 145% of 130 = \_\_\_\_\_

21. 30 is 50% of what number?

22. 120 is 30% of what number?

23. Mariam spent 25% of her money to buy a new TV. If the TV costs AED 300, how much money did she save?

24. Salman runs 0.45 a mile each day. How far has he run at the end of 6 days?



25. Solve

**a.**

$$\begin{array}{r} 2.0789 \\ + 6.075 \\ \hline \end{array}$$

**b.**

$$\begin{array}{r} 5.764 \\ - 0.91 \\ \hline \end{array}$$

26.  $351 \div 9 =$  \_\_\_\_\_

27.  $0.566 \div 4 =$  \_\_\_\_\_

28.  $2.25 \div 0.5 =$  \_\_\_\_\_

29.  $12.54 \times 1000 =$  \_\_\_\_\_

30. Estimate the product of  $34.2 \times 21.5$ . (Circle the correct answer.)

- a) 748
- b) 714
- c) 770
- d) 735

31. Estimate the quotient of  $45 \div 2.1$ . (Circle the correct answer.)

- a) 23
- b) 18
- c) 43
- d) 15

32. Estimate the quotient of  $76.2 \div 18.4$ . (Circle the correct answer.)

- a) 4
- b) 2
- c) 8
- d) 12



33. A king cobra is 4.237 meters long. Round the length to the nearest meter.

Answer: \_\_\_\_\_

Estimate the product of each of the following: (Circle the correct answer.)

34.  $34 \times 23 =$  \_\_\_\_\_

- a) 600
- b) 875
- c) 700
- d) 750

35.  $58 \times 91 =$  \_\_\_\_\_

- a) 4950
- b) 5400
- c) 6000
- d) 5500

36. A border is made of  $24\frac{2}{3}$  bricks that are  $1\frac{1}{6}$  meters long. About how long is the border?

**Solve.**

37.  $\frac{3}{10} \times \frac{5}{6} =$  \_\_\_\_\_

38. Multiply:  $\frac{2}{3} \times 2\frac{1}{2}$

39. A waffle recipe calls for  $2\frac{1}{4}$  cups of flour. If Mariam wants to make  $1\frac{1}{2}$  times the recipe, how much flour does she need? **(Circle the correct answer.)**

- a)  $3\frac{1}{4}$
- b)  $3\frac{3}{8}$
- c)  $2\frac{3}{8}$
- d)  $3\frac{3}{4}$

40. Find the reciprocal of 27. **(Circle the correct answer.)**

- a) 0.037
- b) 72
- c) 27%
- d) 2.7

**Divide:**

41.  $4 \div 32 =$  \_\_\_\_\_

42.  $56 \div 25 =$  \_\_\_\_\_

43. A box has bags of oranges, each bag of orange weighs 611 kg. How many bags of oranges are in the box if it weighs 2444 kg. **(Circle the correct answer.)**

- a) 8
- b) 4
- c) 12
- d) 6