

دليل فهم وتمثيل النسب المئوية



تم تحميل هذا الملف من موقع المناهج الإماراتية

موقع المناهج ← المناهج الإماراتية ← الصف السادس ← رياضيات ← الفصل الأول ← ملفات متنوعة ← الملف

تاريخ إضافة الملف على موقع المناهج: 2026-09-01 14:35:49

ملفات اكتب للمعلم اكتب للطالب ا اختبارات الكترونية ا اختبارات ا حلول ا عروض بوربوينت ا أوراق عمل
منهج انجليزي ا ملخصات وتقارير ا مذكرات وبنوك ا الامتحان النهائي للمدرس

المزيد من مادة
رياضيات:

إعداد: Aghead

التواصل الاجتماعي بحسب الصف السادس



صفحة المناهج
الإماراتية على
فيسبوك

الرياضيات

اللغة الانجليزية

اللغة العربية

التربية الاسلامية

المواد على تلغرام

المزيد من الملفات بحسب الصف السادس والمادة رياضيات في الفصل الأول

الوحدة الأولى منهج ريفيل

1

إجراء عمليات حسابية على أعداد متعددة الأرقام وجمع وطرح الأعداد العشرية

2

الوحدة الرابعة: ضرب الكسور وقسمتها

3

الكسور والأعداد العشرية والنسب المئوية

4

حل اختبار نهائي منهج ريفيل المسار المتقدم

5



وزارة التربية والتعليم
MINISTRY OF EDUCATION

الصف السادس عام ريفيل الوحدة الثانية

Fractions, Decimals, and Percents

إحجز مكانك واستعد للامتحان بثقة كاملة

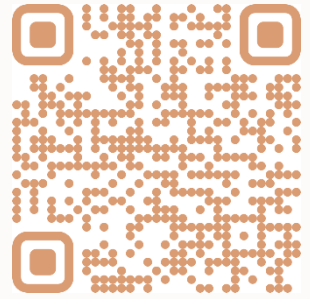
احصل على الشرح الكامل للصف من خلال:

التواصل والحجز عبر الـ
Whatsapp
اضغط على الرقم: 0566991363

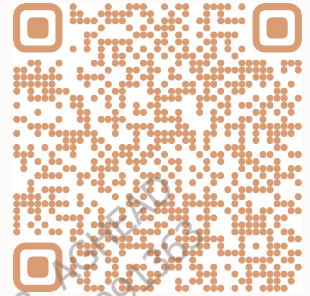


للانتقال إلى المواقع
اضغط هنا

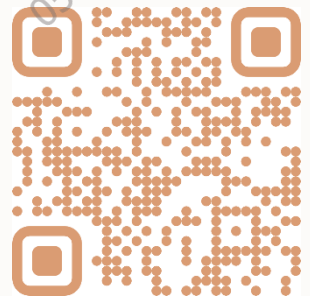
للتواصل والحجز



شرح الدروس



انضم للقناة



Mr. Aghead

للتواصل اضغط الرقم:
0566991363

Mr. Aghead

يمكنكم الحصول على

شرح
دروس
الفصل
كامل

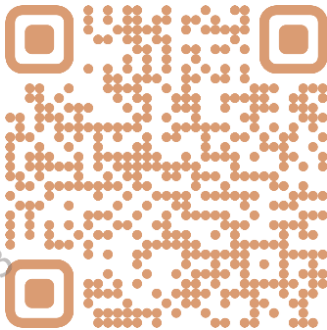
ملازم
محلولة

ب 149
درهم فقط

اختبارات

MR.AGHEAD

0566991363



لا تتردد في التواصل
معنا قم بمسح ال QR

احصل على الشرح الكامل للصف من خلال:

التواصل والحجز عبر الـ Whatsapp

اضغط على الرقم: 0566991363

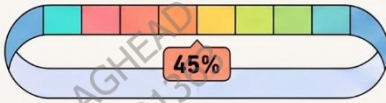
Lesson 1 – Understand Percents

دليل فهم وتمثيل النسب المئوية

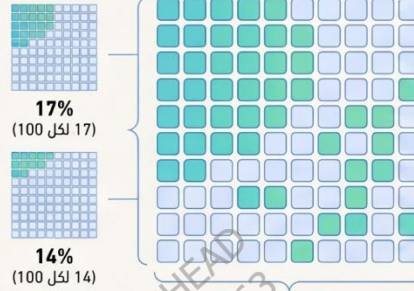
خطوات تمثيل النسبة المئوية بصرياً

مفهوم النسبة المئوية وتمثيلها الرياضي

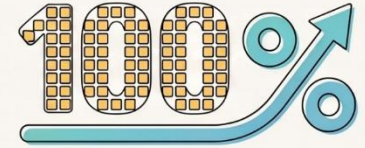
الخطوة 2: استخدام المخطط الشريطي
قسم الشريط إلى أجزاء متساوية (مثلاً 10 أجزاء لكل منها 10%) وظلل الأجزاء التي تمثل نسبتك.



الخطوة 1: استخدام شبكة الـ 100 مربع
بما أن الشبكة تحتوي 100 مربع، فإن كل مربع يمثل 1%. ظلل عدداً من المربعات يساوي النسبة المطلوبة.



مرونة التظليل في الشبكة
لا يشترط تظليل المربعات بترتيب معين: المهم هو تظليل العدد الصحيح الذي يمثل النسبة.



ما هي النسبة المئوية؟

هي نسبة أو معدل يقارن عدداً بالعدد 100، وتعني "لكل مئة" ويرمز لها بالرمز %.

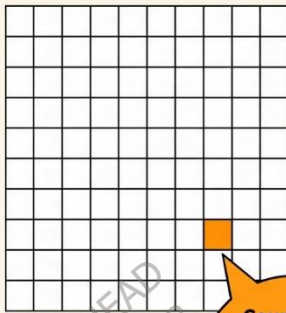
صور التعبير عن النسبة

$$\frac{45}{100} : \frac{45}{100} = \frac{45}{100}$$

Mastering Percents: A Step-by-Step Visual Guide

Understand percent as a ratio comparing a number to 100, using visual models like grids and bars.

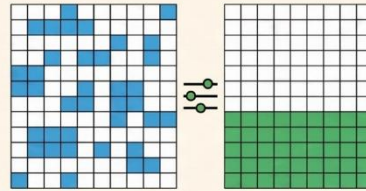
Step 1: Modeling with 10×10 Grids



Percent Means "Per Hundred"

A percent is a ratio that compares any number to the total of 100.

Count and Shade the Grid: Each single square represents exactly 1%



Shading Order Doesn't Matter

As long as the total count is correct, the shading pattern can vary.

Step 2: Modeling with Bar Diagrams

Divide the Bar into Equal Sections

10 Sections for 10% multiples



20 Sections for 5% multiples



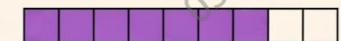
Divide into 10 sections for 10% multiples or 20 sections for 5% multiples.

Assign Value to Each Section



Each section represents a fixed percentage based on the total number of divisions.

Target Total: 70%



Shade to Reach the Target Total

Fill the required number of sections to represent the specific percent value.

Quick Reference for Dividing Bar Diagrams Accurately

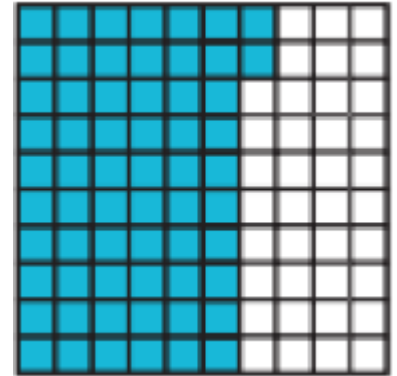
Target Multiple	Number of Sections	Percent per Section
Multiples of 10%	10	10%
Multiples of 5%	20	5%

Choose the correct answer for each question:

❖ Example 1:

1. What percent is represented by the 10×10 grid?

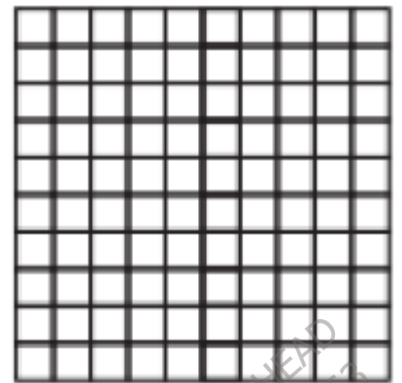
- A. 52%
- B. 58%
- C. 62%
- D. 68%



❖ Example 2:

2. A middle school newspaper surveyed the student body and found that 14% of the students surveyed chose horses as their favorite animal. Shade the 10×10 grid to model 14%

- A. Shade 1 full column and 2 additional squares (12 squares total)
- B. Shade 1 full column and 4 additional squares (14 squares total)
- C. Shade 1 full column and 5 additional squares (15 squares total)
- D. Shade 2 full columns (20 squares total)



❖ Example 3:

3. What percent is represented by the bar diagram?

- | |
|--------|
| A. 20% |
| B. 40% |
| C. 50% |
| D. 60% |



❖ Example 4:

4. Draw a bar diagram to model 35%

- | |
|--|
| A. A bar diagram divided into 10 equal parts with 3 parts shaded 30% |
| B. A bar diagram divided into 20 equal parts with 7 parts shaded 35% |
| C. A bar diagram divided into 10 equal parts with 4 parts shaded 40% |
| D. A bar diagram divided into 5 equal parts with 2 parts shaded 40% |

❖ Practice:

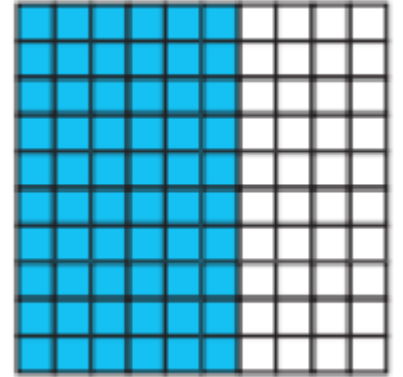
5. identify the percent represented by each 10×10 grid.

A. 40%

B. 50%

C. 60%

D. 70%



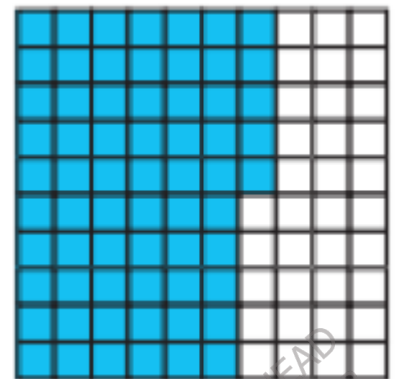
6. identify the percent represented by each 10×10 grid.

A. 54%

B. 60%

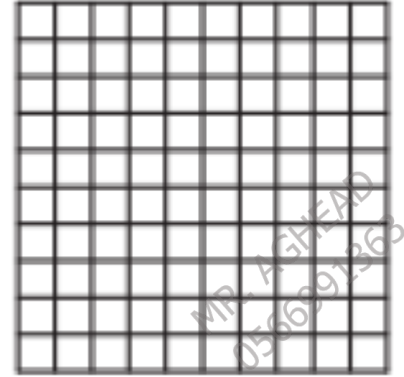
C. 65%

D. 74%



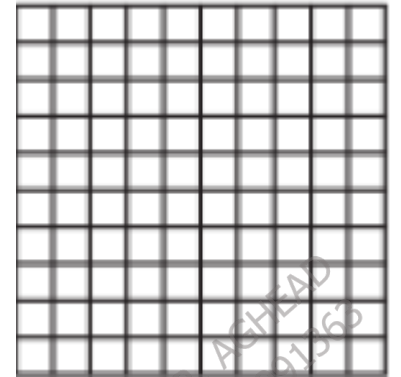
7. In a school survey, 12% of the students surveyed said they like camping.
Shade the 10×10 grid to model 12%

A. Shade 1 full column and 1 additional square (11 squares total)	C. Shade 1 full column and 4 additional squares (14 squares total)
B. Shade 1 full column and 2 additional squares (12 squares total)	D. Shade 2 full columns (20 squares total)



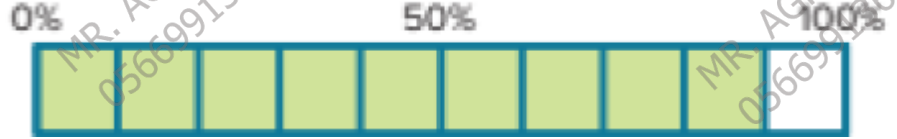
8. Of the students in the lunch line, 9% said they were buying strawberry milk. Shade the 10×10 grid to model 9%

A. Shade 5 squares (5% total)
B. Shade 1 full column (10% total)
C. Shade 9 individual squares (9 squares total)
D. Shade 1 full column and 1 additional square (11% total)



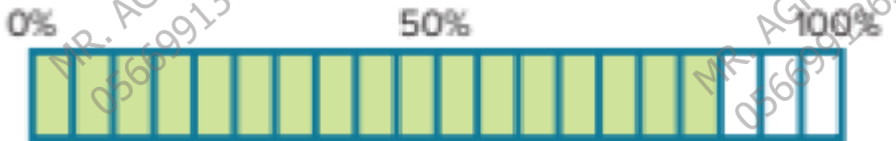
9. identify the percent represented by each bar diagram.

- | |
|---------|
| A. 80% |
| B. 90% |
| C. 95% |
| D. 100% |



10. identify the percent represented by each bar diagram.

- | |
|--------|
| A. 75% |
| B. 80% |
| C. 85% |
| D. 90% |



Lesson 2 – Percents Greater Than 100% and Less Than 1%

فهم النسب المئوية: أكبر من 100% وأقل من 1%

تمثيل النسب المئوية الأقل من 1%

الخطوة 2: استخدام التكبير للنمذجة

تظليل جزء من مربع واحد (مثل ربعه لتمثيل 0.25%) وتوضيحه برسم مكبر بجانب الشبكة.

الخطوة 1: فهم القيمة الدقيقة

النسبة أقل من 1% تعني تظليل جزء بسيط من مربع واحد فقط فقط داخل الشبكة.

مثال: تمثيل نسبة 0.25%



0.25%

كتابة النسبة ككسر (0.25/100). وتظليل ربع مربع واحد فقط من أصل 100 مربع.

تمثيل النسب المئوية الأكبر من 100%

الخطوة 2: التظليل باستخدام أكثر من شبكة

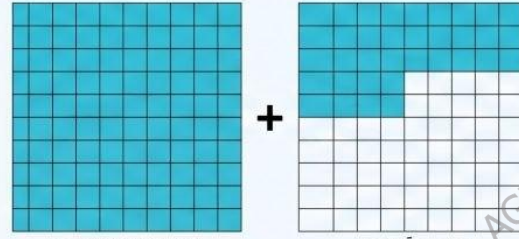
تظليل شبكة كاملة (100 مربع) ثم الانتقال لتظليل المربعات المتبقية في شبكة ثانية.

الخطوة 1: تحديد النسبة ككسر مقامه 100

$$125\% = \frac{125}{100}$$

كتابة النسبة (مثل 125%) في صورة كسر (125/100) لتوضيح أن الجزء أكبر من الكل.

مثال: تمثيل نسبة 125%



شبكة كاملة (100 مربع)

25 مربعاً إضافية

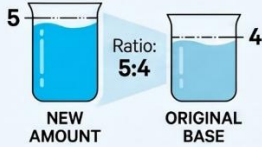
125%

يتم تظليل شبكة 10 × 10 كاملة بالإضافة إلى 25 مربعاً من الشبكة الثانية.

Mastering Extreme Percents: A Guide to >100% and <1%

SOLVING PERCENTS GREATER THAN 100%

Step 1: Create a "Part-to-Whole" Ratio



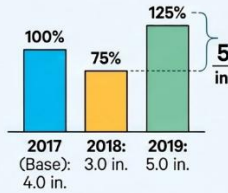
Compare the new amount to the original base (e.g., a ratio of 5:4).

Step 2: Scale the Ratio to 100

$$\frac{5}{4} \times 25 = \frac{125}{100}$$

Use multiplication to find an equivalent ratio with a denominator of 100.

RAINFALL COMPARISON (Example >100%)



SOLVING PERCENTS LESS THAN 1%

Identify Fractional Percents

These occur when the number being compared to 100 is less than 1.

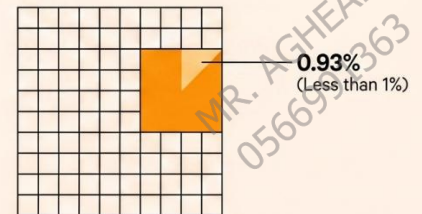
$$< \frac{0.8}{100}$$

Step 1: Calculate the Tiny Ratio

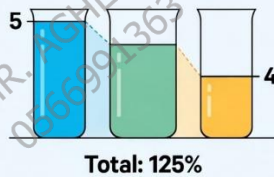
$$\frac{\text{Part}}{\text{Whole}} \div \text{e.g., } 0.93 \text{ per } 100$$

Divide the part by the whole to find the decimal percent (e.g., 0.93 per 100).

Step 2: Model Within a Single Square

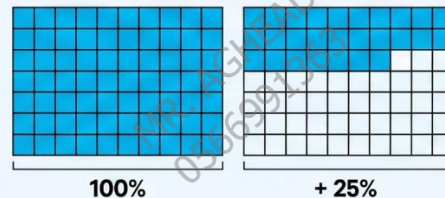


On a 100-square grid, shade only a fraction of one single square.



Total: 125%

Step 3: Model with Multiple Grids



100%

+ 25%

Shade one full grid for every 100% plus additional squares for the remainder.

Choose the correct answer for each question:

❖ Example 1:

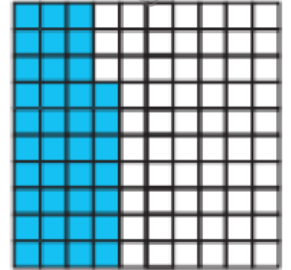
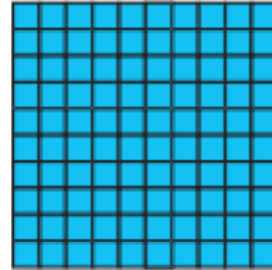
1. What percent is represented by the 10×10 grids?

A. 114%

B. 120%

C. 137%

D. 134%



❖ Example 2:

2. At birth, a male baby giraffe stands almost 6 feet tall. At 4 years of age, the male giraffe will be about three times as tall as at birth. Write a percent that compares the giraffe's height at 4 years of age to its height at birth. Then draw and shade 10×10 grids to model the percent.

A. 150%; 1.5 grids shaded

B. 200%; 2 grids shaded

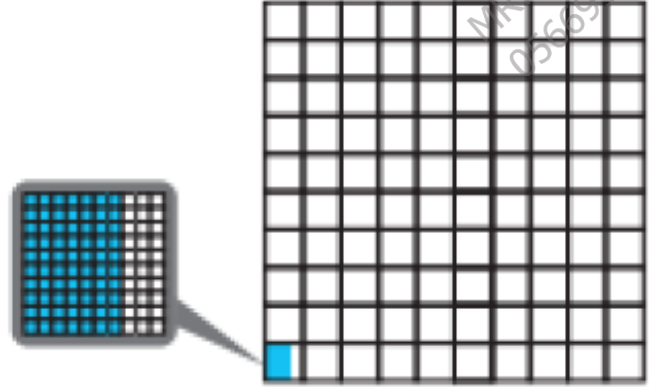
C. 300%; 3 completely shaded 10×10 grids

D. 350%; 3.5 grids shaded

❖ Example 3:

3. What percent is represented by the 10×10 grid?

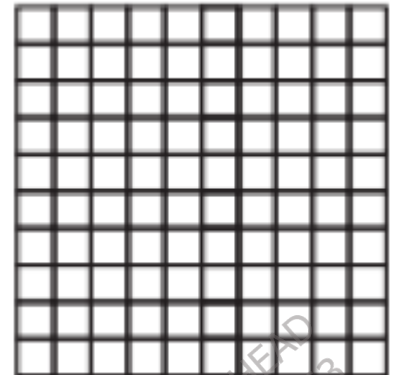
- | |
|----------|
| A. 0.52% |
| B. 0.58% |
| C. 0.70% |
| D. 0.68% |



❖ Example 4:

4. The average weight of a brown bear is about 1,000 pounds. Suppose a large stuffed bear weighs 2.5 pounds. Write a percent to compare the weight of the stuffed animal to the weight of the brown bear. Then use the 10×10 grid to model the percent.

- | |
|---|
| A. 0.025%; shade 0.025 of a square |
| B. 0.25%; shade $\frac{1}{4}$ of a single square |
| C. 2.5%; shade 2 full squares and half of another |
| D. 25%; shade 25 squares |



❖ Practice:

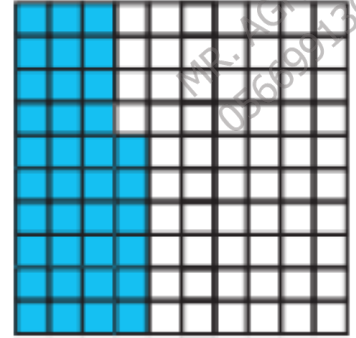
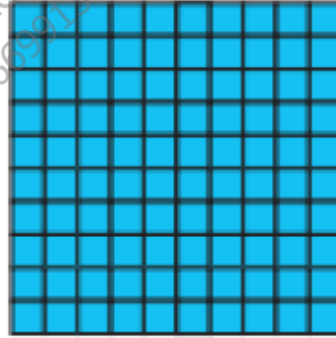
5. Identify the percent represented by the 10×10 grids.

A. 136%

B. 140%

C. 146%

D. 156%



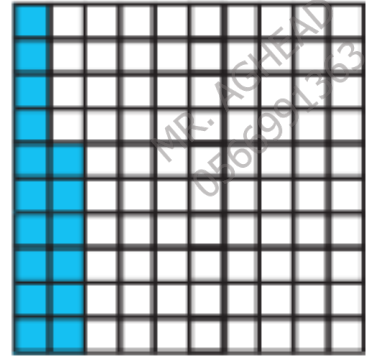
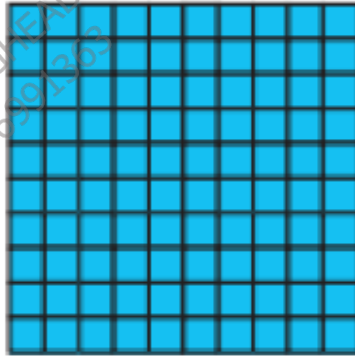
6. Identify the percent represented by the 10×10 grids.

A. 105%

B. 116%

C. 125%

D. 130%



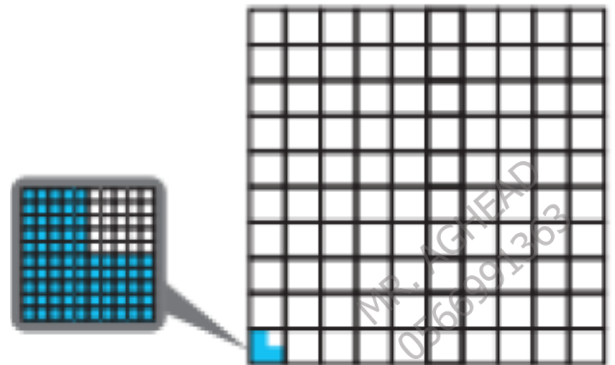
7. Identify the percent represented by the 10×10 grids.

A. 0.22%

B. 0.75%

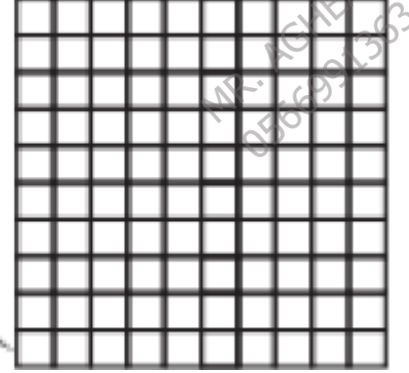
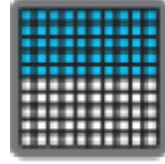
C. 0.42%

D. 3.2%



8. Identify the percent represented by the 10×10 grids.

- | |
|--------------------|
| A. 0.25% |
| B. 0.5% (or 0.50%) |
| C. 0.75% |
| D. 5% |

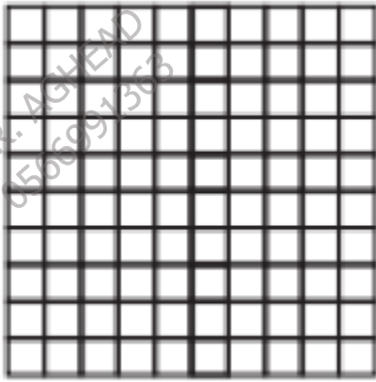


9. The size of a large milkshake is 1.4 times the size of a medium milkshake. Write a percent that compares the size of the large milkshake to the size of the small [medium] milkshake. Then draw and shade 10×10 grids to model the percent.

- | |
|--|
| A. 14%; 14 squares shaded |
| B. 104%; 1 grid and 4 squares shaded |
| C. 140%; 1 completely shaded 10×10 grid and 4 columns (or 40 squares) of another grid |
| D. 410%; 4 grids and 10 squares shaded |

10. The Freedom Tower is 1,776 feet tall. Mr. Feeman's students are building a replica of the tower for a class project that will stand 4.44 feet tall. Write a percent that compares the height of the replica to the height of the actual tower. Then shade the 10×10 grid to model the percent.

- | |
|---|
| A. 0.025%; shade 0.025 of a square |
| B. 0.25%; shade $\frac{1}{4}$ of a single square |
| C. 2.5%; shade 2 full squares and half of another |
| D. 25%; shade 25 squares |



Lesson 3 – Relate Fractions, Decimals, and Percents

دليل الربط بين الكسور والأعداد العشرية والنسب المئوية

تحويل الكسور والأعداد الكسرية إلى نسبة مئوية

استخدم الكسور المتكافئة للوصول لمقام 100.

أولاً

$$\frac{1}{4} \rightarrow \frac{25}{100}$$

اضرب البسط والمقام في نفس العدد لجعل المقام يساوي 100.

ثانياً

للأعداد الكسرية: حولها لكسر غير فعلي أولاً.

$$2\frac{9}{10} \rightarrow \frac{29}{10} \rightarrow \frac{290}{100} = 290\%$$

مثال: $2\frac{9}{10}$ تصبح $\frac{29}{10}$ ، ثم تُضرب لتصبح $\frac{290}{100}$ أي 290%.

ثالثاً

بسّط الكسر أولاً إذا كان المقام لا يضرب مباشرة في 100.

$$\frac{9}{15} \rightarrow \frac{3}{5} \rightarrow \frac{60}{100} \rightarrow 60\%$$

مثال: $\frac{9}{15}$ تُبسّط إلى $\frac{3}{5}$ ، ثم تُحول إلى $\frac{60}{100}$ لتصبح 60%.100
النسبة المئوية هي
مقارنة مع 100.
%

$$35\% \rightarrow 35 : 100 \rightarrow \frac{35}{100}$$

تُكتب النسبة المئوية (مثل 35%) كنسبة 35 : 100 أو كسر $\frac{35}{100}$.

تحويل النسبة المئوية إلى كسر وعشري

لتحويلها لكسر: ضع العدد فوق 100 ثم بسّط.

$$95\% \rightarrow \frac{95}{100} \rightarrow \frac{19}{20}$$

مثال: 5% تصبح $\frac{5}{100}$ وبالقسمة على 5 تحل لأبسط صورة $\frac{1}{20}$.

لتحويلها لعشري: حرك الفاصلة منزلتين لليسار.

$$35\% \rightarrow 35 \rightarrow 0.35$$

مثال: 5% تعني خمسة وثلاثون جزءاً من مئة، وتُكتب 0.35.

MASTER THE MATH TRIO:

Fractions, Decimals, and Percents

A percent is a ratio that compares a number to 100. By understanding place-value reasoning and equivalent ratios, you can seamlessly convert any value between its fraction, decimal, and percent forms.

FROM PERCENT TO FRACTION AND DECIMAL

35%

 $\frac{35}{100}$

Step 1: Write as a Fraction over 100

Use the definition of percent to place the number over a denominator of 100 (e.g., 35% becomes 35/100).

Step 2: Simplify the Ratio

Divide the numerator and denominator by their greatest common factor to find the simplest form (e.g., 35/100 = 7/20).

 $\frac{35}{100}$  $\frac{7}{20}$ $\frac{35}{100}$ 

Step 3: Use Place Value for Decimals

Read the fraction as hundredths to place the decimal point correctly (e.g., 35/100 is "thirty-five hundredths" or 0.35).

35%

 $\frac{7}{20}$

0.35

FROM FRACTION TO PERCENT

Step 1: Target the 100 Denominator

Multiply the numerator and denominator by the same number to make the denominator 100 (e.g., for 3/20, multiply by 5 to get 15/100).

 $\frac{3}{20}$ $\frac{15}{100}$

Step 2: Handle Mixed Numbers First

Convert mixed numbers to improper fractions before finding an equivalent ratio with 100 (e.g., $2\frac{9}{10}$ becomes 29/10, then 290/100). $2\frac{9}{10}$ $\frac{29}{10}$ $\frac{290}{100}$

Simplify Before Scaling

If the denominator isn't a factor of 100, simplify the fraction first to find a usable factor.

 $\frac{8}{40}$ $\frac{1}{5}$ $\frac{20}{100}$

QUICK REFERENCE FOR COMMON CONVERSIONS

35%	$\rightarrow$	$\frac{7}{20}$ Fraction (Simplest Form)	Decimal
95%	$\rightarrow$	$\frac{19}{20}$ 19/20	0.95
70%	$\rightarrow$	$\frac{7}{10}$ 7/10	0.7

 $\frac{3}{20}$ $2\frac{9}{10}$

Choose the correct answer for each question:

❖ Example 1:

1. In a recent survey, 22% of E-mail users claimed to spend less time using E-mail because of spam. What fraction of E-mail users is this? What decimal is this?

A. Fraction: $\frac{1}{5}$, Decimal: 0.2

B. Fraction: $\frac{11}{50}$, Decimal: 0.22

C. Fraction: $\frac{11}{25}$, Decimal: 0.44

D. Fraction: $\frac{22}{5}$, Decimal: 2.2

❖ Example 2:

2. Write $\frac{4}{16}$ as a percent and as a decimal.

A. Percent: 20%, Decimal: 0.2

B. Percent: 25%, Decimal: 0.25

C. Percent: 40%, Decimal: 0.4

D. Percent: 4, Decimal: 2.5

❖ Example 3:

3. When blue whales feed, they can take in $1\frac{1}{25}$ times their body weight in food and water in one single gulp. What percent of their body weight is this?

- | |
|-----------|
| A. 10.4% |
| B. 104% |
| C. 140% |
| D. 1,040% |

❖ Example 4:

4. Write 1.4 as a percent and as a mixed number.

- | |
|--|
| A. Percent: 14%, Mixed Number: $1\frac{1}{5}$ |
| B. Percent: 140%, Mixed Number: $1\frac{1}{4}$ |
| C. Percent: 140%, Mixed Number: $1\frac{2}{5}$ |
| D. Percent: 1,400%, Mixed Number: $1\frac{4}{5}$ |

❖ Practice:

5. Write each percent as a fraction in simplest form and as a decimal
45%

- | |
|---|
| A. Fraction: $\frac{4}{5}$, Decimal: 0.8 |
| B. Fraction: $\frac{9}{25}$, Decimal: 0.36 |
| C. Fraction: $\frac{9}{20}$, Decimal: 0.45 |
| D. Fraction: $\frac{45}{10}$, Decimal: 4.5 |

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

72%

A. Fraction: $\frac{7}{10}$, Decimal: 0.7
B. Fraction: $\frac{18}{25}$, Decimal: 0.72
C. Fraction: $\frac{36}{50}$, Decimal: 0.36
D. Fraction: $\frac{4}{5}$, Decimal: 0.8

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

80%

A. Fraction: $\frac{3}{4}$, Decimal: 0.75
B. Fraction: $\frac{8}{10}$, Decimal: 0.8
C. Fraction: $\frac{4}{5}$, Decimal: 0.8
D. Fraction: $\frac{9}{10}$, Decimal: 0.9

8. Write each fraction as a percent and as a decimal.

$\frac{3}{20}$

A. Percent: 12%, Decimal: 0.12
B. Percent: 15%, Decimal: 0.15
C. Percent: 30%, Decimal: 0.3
D. Percent: 35%, Decimal: 0.35

9. Write each fraction as a percent and as a decimal.

$$1\frac{3}{4}$$

A. Percent: 125%, Decimal: 1.25

B. Percent: 150%, Decimal: 1.5

C. Percent: 175%, Decimal: 1.75

D. Percent: 180%, Decimal: 1.8

10. Write each fraction as a percent and as a decimal.

$$\frac{5}{8}$$

A. Percent: 58%, Decimal: 0.58

B. Percent: 60%, Decimal: 0.6

C. Percent: 62.5%, Decimal: 0.625

D. Percent: 65%, Decimal: 0.65

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

0.89

A. Percent: 8.9%, Fraction: $\frac{89}{1000}$

B. Percent: 89%, Fraction: $\frac{89}{100}$

C. Percent: 890%, Fraction: $\frac{89}{10}$

D. Percent: 89%, Fraction: $\frac{9}{10}$

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

0.82

A. Percent: 8.2%, Fraction: $\frac{41}{500}$
B. Percent: 82%, Fraction: $\frac{41}{50}$
C. Percent: 82%, Fraction: $\frac{4}{5}$
D. Percent: 820%, Fraction: $\frac{82}{10}$

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

0.65

A. Percent: 6.5%, Fraction: $\frac{13}{200}$
B. Percent: 65%, Fraction: $\frac{13}{25}$
C. Percent: 65%, Fraction: $\frac{13}{20}$
D. Percent: 65%, Fraction: $\frac{3}{4}$

Lesson 4 – Find the Percent of a Number

دليل الطالب: كيف تجد النسبة المئوية من عدد؟

الخطوات التحضيرية للحل



تحديد المعطيات: ابدأ دائماً بتحديد القيمة الإجمالية والنسبة التنبؤية المئوية المطلوبة لمعرفة ما تبحث عنه.

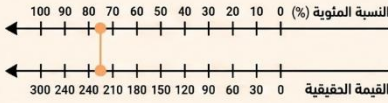
$$\frac{15}{100} >$$



النسبة المئوية هي معدل لكل 100: فهم أن 15% تعني "15 لكل 100" يسهل عملية الحل الذهني السريع.

استراتيجيات الحل المختارة

استخدام خط الأعداد المزدوج (Double Number Line)



ارسم خطين متوازيين للمقارنة البصرية المباشرة بين الأعداد النسبية والقيم الحقيقية.

استخدام النسب المتكافئة (Equivalent Ratios)

$$\frac{\text{الجزء}}{\text{الكل}} = \frac{\text{النسبة}}{100}$$

الضرب أو القسمة

اكتب معادلة تربط بين (الجزء/الكل) و(النسبة/100) ثم استخدم الضرب أو القسمة للحل.

استخدام مخطط الشريحة (Bar Diagram)



قسّم الشريحة إلى 10 أجزاء متساوية، حيث يمثل كل قسم 10% من القيمة الإجمالية.

مثال توضيحي: توزيع الوجبات الخفيفة لـ 300 طالب

طريقة الحساب (لكل 100)	النسبة المئوية	الصف
طالب 45 = 15 + 15 + 15	15%	الجبن 🧀
طالب 69 = 23 + 23 + 23	23%	الفواكه 🍎
طالب 51 = 17 + 17 + 17	17%	الخضروات 🥕

Master the Math: Finding the Percent of a Number

A step-by-step guide and strategies to calculate the "part" when given a "whole" and a "percent".

The 3-Step Setup



Identify the "Whole"

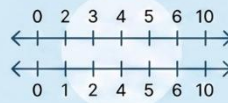
Determine the total quantity or the 100% value provided in the problem.

Identify the "Percent"

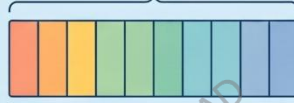
Find the rate per 100, which defines the portion you need to extract.

Define the "Unknown Part"

Set the variable (n) for the specific value you are trying to calculate.



Whole = 50 (100%)



Part = 10 (20%)

The Bar Diagram Method

Divide a bar into equal sections (like 10 units) to represent parts of the whole.

3 Ways to Solve



Category	Value A (Target)	Value B (Whole)
Percent	20	100
Number of People	10	50

Ratio Tables & Scaling

Use a table to scale 100% down or up to reach your target percentage.



$$\left[\frac{\text{Part}}{\text{Whole}} \right] = \left[\frac{\text{Percent}}{100} \right]$$

$$\left[\frac{n}{50} \right] = \left[\frac{20}{100} \right]$$

Equivalent Ratio Equations

Solve the equation:
[Part / Whole] = [Percent / 100].

Choose the correct answer for each question:

❖ Example 1:

1. Approximately 11% of the U.S. population is left-handed. If there are 700 students at a middle school, about how many of them are expected to be left-handed?

- | |
|-----------------|
| A. 7 students |
| B. 77 students |
| C. 110 students |
| D. 770 students |

❖ Example 2:

2. What is 70% of 580? Use any strategy

- | | |
|---------|---------|
| A. 36.6 | B. 40.6 |
| C. 406 | D. 4060 |

❖ Example 3:

3. What is 275% of 4? Use any strategy

- | |
|---------|
| A. 1.1 |
| B. 10.1 |
| C. 11 |
| D. 110 |

❖ Example 4:

4. What is 0.55% of 220? Use any strategy

A. 0.121

B. 1.21

C. 12.1

D. 121

❖ Practice:

5. Use any strategy to solve each problem.

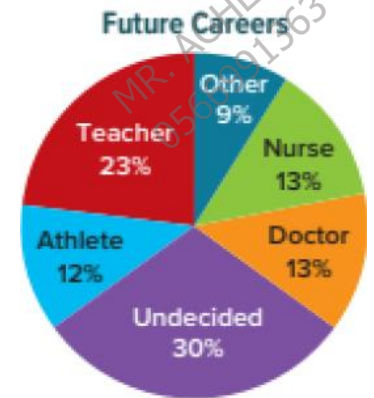
The graph shows the career interests of the students at Linda's school. Suppose there are 400 students at the school. How many of them want to be an athlete?

A. 36 students

B. 48 students

C. 52 students

D. 60 students



6. Use any strategy to solve each problem.

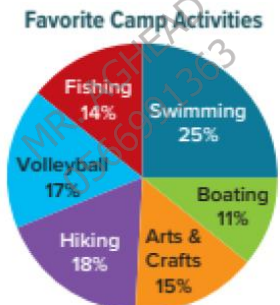
The graph shows the favorite activities of campers at a summer camp. Suppose there are 300 campers at the camp. How many campers favor fishing?

A. 35 campers

B. 38 campers

C. 42 campers

D. 45 campers



7. Use any method to find the percent of each number.

15% of 240

- | |
|--------|
| A. 24 |
| B. 36 |
| C. 45 |
| D. 360 |

8. Use any method to find the percent of each number.

65% of 180

- | |
|--------|
| A. 108 |
| B. 117 |
| C. 125 |
| D. 130 |

9. Use any method to find the percent of each number.

250% of 82

- | |
|--------|
| A. 164 |
| B. 192 |
| C. 205 |
| D. 210 |

10. Use any method to find the percent of each number.

150% of 44

- | |
|-------|
| A. 55 |
| B. 66 |
| C. 72 |
| D. 88 |

11. Use any method to find the percent of each number.
0.15% of 350

A. 0.0525

B. 0.525

C. 5.25

D. 52.5

12. Use any method to find the percent of each number.
0.4% of 168

A. 0.0672

B. 0.672

C. 6.72

D. 67.2

Lesson 5 – Estimate the Percent Of a Number

تقدير النسبة المئوية من عدد

يركز هذا المحتوى على كيفية تحويل النسب المئوية الصعبة (مثل 27%) إلى نسب مرجعية سهلة (مثل 25%) واستخدام التقريب للأعداد الكلية لتسهيل الحساب الذهني.

نموذج الشريط

مثال: تقدير 27% من 40

تقريب 27% إلى 25%



القواعد الأساسية للتقدير



النسب المئوية المرجعية

هي نسب شائعة يسهل حسابها مثل 10%, 20%, 25%, 50%, و 75%.

خطوات الحل

الخطوة 3: الحساب النهائي

$$40 \div 4 = 10$$

نقسم العدد (40) على 4، ليكون الناتج التقديري هو 10.

الخطوة 2: التحويل إلى كسر

$$25\% = \frac{1}{4}$$

نعلم أن 25% تساوي الكسر 1/4.

الخطوة 1: اختيار النسبة المرجعية

$$27\% / 25\%$$

بما أن 27% قريبة من 25%، نستخدم 25% كبديل أسهل.

الربط بين النسب والكسور

الكسر المقابل	النسبة المئوية
25%	$\frac{1}{4}$
20%	$\frac{1}{5}$
50%	$\frac{1}{2}$

تقريب الأعداد

$$27\% \rightarrow 25\%$$

$$42 \rightarrow 40$$

قرب النسبة المئوية أو العدد الكلي لأقرب قيمة تسهل عملية الضرب أو القسمة ذهنياً.

MASTERING PERCENT ESTIMATION

BENCHMARK PERCENTS

BENCHMARK PERCENT	EQUIVALENT FRACTION
25%	$\frac{1}{4}$
20%	$\frac{1}{5}$
10%	$\frac{1}{10}$

1. PREPARE THE NUMBERS

Identify Benchmark Percents

Use common, easy-to-calculate percents like 10%, 20%, 25%, 50%, or 100%.



Round for Compatibility

Round the percent or the whole number to the nearest benchmark for easier mental math.

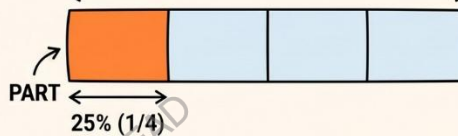
$$19\% \rightarrow 20\%$$

$$402 \rightarrow 400$$

2. CALCULATE THE ESTIMATE

Use a Bar Diagram

WHOLE (e.g., 100%)



Apply Equivalent Ratios

Set up a ratio of (Part/Whole) equal to (Percent/100) and solve for the unknown value.

$$\frac{\text{PART}}{\text{WHOLE}} = \frac{\text{PERCENT}}{100}$$

3. CHECK FOR REASONABLENESS

Compare your estimate to the original numbers to ensure the answer makes sense.



Choose the correct answer for each question:

❖ Example 1:

1. Of the 78 campers at a youth camp, 63% have birthdays in the spring.
About how many campers have birthdays in the spring?

- | |
|---------------|
| A. 42 campers |
| B. 49 campers |
| C. 55 campers |
| D. 63 campers |

❖ Example 2:

2. Estimate 76% of 122. Use any strategy.

- | |
|--------|
| A. 75 |
| B. 90 |
| C. 100 |
| D. 120 |

❖ Practice:

3. estimate each percent. Show your estimation.
51% of 62

- | |
|-------|
| A. 20 |
| B. 30 |
| C. 40 |
| D. 50 |

4. estimate each percent. Show your estimation.

26% of 78

A. 15

B. 20

C. 25

D. 30

5. estimate each percent. Show your estimation.

39% of 198

A. 60

B. 70

C. 80

D. 90

6. estimate each percent. Show your estimation.

78% of 148

A. 100

B. 110

C. 120

D. 130

7. estimate each percent. Show your estimation.

19% of 103

A. 20

B. 25

C. 30

D. 40

8. estimate each percent. Show your estimation.

98% of 59

A. 50

B. 60

C. 70

D. 80

9. Emilia and her three sisters went out to dinner. The total cost of their dinner was 38.75\$. They want to leave a tip that is 23% of the total bill. About how much of a tip should they leave?

A. 6\$

B. 8\$

C. 12\$

D. 15\$

10. Karl earned \$188 last month doing chores after school. If 68% of the money he earned was from doing yard work, about how much did Karl earn doing yard work?

A. 110\$

B. 120\$

C. 128\$

D. 140\$

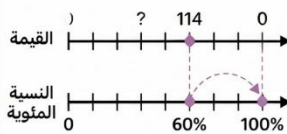
Lesson 6 – Find the Whole

إيجاد القيمة الكاملة (الكل): دليلك لحل مسائل النسب المئوية

توضيح الاستراتيجيات المختلفة لإيجاد القيمة الإجمالية (100%) عندما يكون "الجزء" و"النسبة المئوية" معروفين.

استراتيجيات الحل الخطوية

خط الأعداد المزدوج (Double Number Line)



ضع النسب في الأسفل والقيم في الأعلى، وتحرك بزيادات ثابتة حتى تصل إلى 100%.

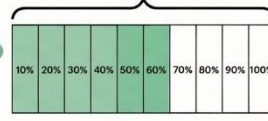
جدول النسب (Ratio Table)

القيمة	النسبة
114	60%
19	10%
190	100%

استخدم القسمة لتبسيط النسبة، ثم الضرب للتوسع والوصول إلى 100%.

مخطط الأشرطة

الكل (100%) ؟



قسم الشريط إلى أجزاء متساوية (مثل 10% لكل جزء) ووزع القيمة عليها بالتساوي.

فهم المسألة (المنطق)



تحديد "الجزء" و"النسبة"

أبدأ بتحديد الرقم المعطى والنسبة المئوية التي يمثلها (مثلاً: 114 طالباً يمثلون 60%).

الهدف هو 100% ابحث دائماً عن القيمة التي تقابل نسبة 100% لتصل إلى "الكل".

أمثلة محلولة من واقع المنهج

الجزء: 15 دولاراً (30%)
الكل: ← 50 دولاراً



الجزء: 90 أغنية (75%)
الكل: ← 120 أغنية

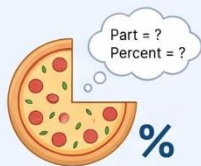


الجزء: 114 طالباً (60%)
الكل: ← 190 طالباً



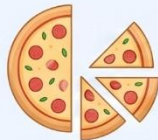
Finding the Whole: A Step-by-Step Guide

The 3-Step Strategy



Step 1: Identify Your Givens

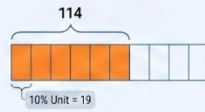
Clearly label the known "part" value and its corresponding "percent" from the problem.



Step 2: Find the Value of One Unit

Divide the known part by its percentage units to find the value of 10%.

$$\frac{\text{Part}}{\text{Percent}} = \text{Value of 10\%}$$



Step 3: Scale Up to 100%

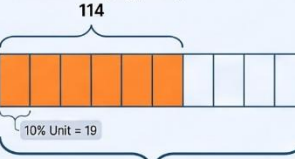
Multiply the 10% unit value by 10 to determine the final "whole" amount.

$$\text{Value of 10\%} \times 10 = \text{The Whole (100\%)}$$

Visualizing the Solution

The Bar Diagram Method

Known Part (e.g., 60%)



The Whole (100%)
190

Draw 10 sections of 10% each; shade the known percentage to find the whole.

Scaling with Ratio Tables

Category	Part (60%)	Single Unit (10%)	The Whole (100%)
Number of Students	114	19 (Divide by 6)	190 (Multiply by 10)
Percent (%)	60%	10%	100%

Use a table to scale back to 10% and then forward to 100%.

Choose the correct answer for each question:

❖ Example 1:

1. In the first year of ownership, a new car lost 20% of its value. If the car lost \$4,200 of its value, how much did the car originally cost? Use any strategy.

- | |
|------------|
| A. 8400\$ |
| B. 16800\$ |
| C. 21000\$ |
| D. 42000\$ |

❖ Example 2:

2. Kai calculates that he spends 15% of the school day in science class. If he spends 75 minutes in science class, how many minutes long is Kai's school day?

- | |
|----------------|
| A. 450 minutes |
| B. 500 minutes |
| C. 550 minutes |
| D. 750 minutes |

❖ Practice:

3. Yolanda's club requires that 80% of the members be present for any vote. If at least 20 members must be present to have a vote, how many members does the club currently have?

- | |
|----------------|
| A. 25 members |
| B. 20 members |
| C. 30 members |
| D. 100 members |

4. Action movies make up 25% of Sara's DVD collection. If she has 16 action DVDs, how many DVDs does Sara have in her collection?

- | |
|------------|
| A. 48 DVDs |
| B. 56 DVDs |
| C. 80 DVDs |
| D. 64 DVDs |

5. Marcus saved 10\$ because he bought a baseball glove that was on sale for 40% off. What was the original price of the baseball glove?

- | |
|---------|
| A. 25\$ |
| B. 20\$ |
| C. 40\$ |
| D. 50\$ |

6. 55% Of the students in the marching band, plan to go to the school dance. If there are 110 students in the marching band that are going to the dance, how many students are in the marching band?

- | | |
|-----------------|-----------------|
| A. 150 students | B. 220 students |
| C. 180 students | D. 200 students |

7. Melcher used 24% of the memory card on his digital camera while taking pictures at a family reunion. If Melcher took 96 pictures at the family reunion, how many pictures can the memory card hold?

- | | |
|-----------------|-----------------|
| A. 400 pictures | B. 300 pictures |
| C. 350 pictures | D. 450 pictures |

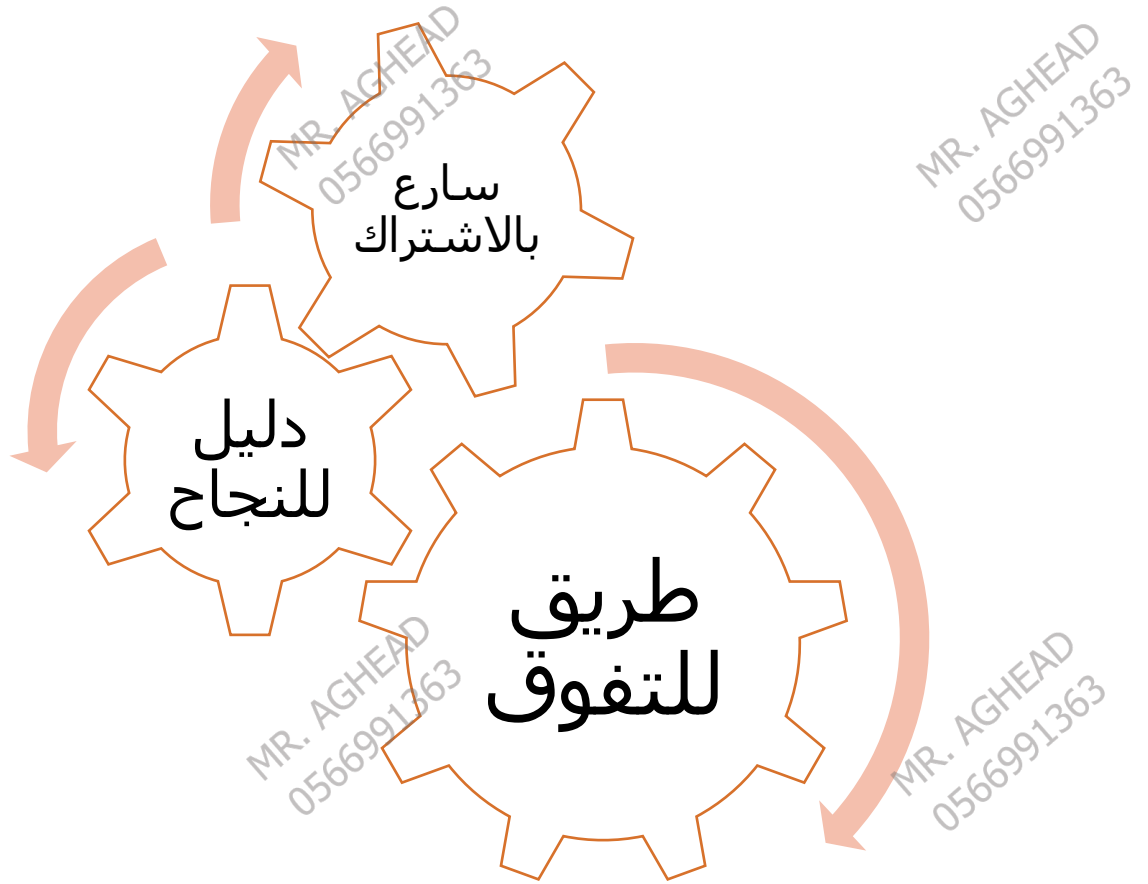
8. Mallorie has 12\$ in her wallet. If this is 20% of her monthly allowance, what is her monthly allowance?

- | | |
|----------|---------|
| A. 48\$ | B. 50\$ |
| C. 120\$ | D. 60\$ |

9. The table shows the number of minutes Tim has for lunch and study hall. He calculates that these two periods account for 18% of the minutes he spends at school. How many minutes does he spend at school?

- | | |
|----------------|----------------|
| A. 400 minutes | B. 450 minutes |
| C. 500 minutes | D. 550 minutes |

Period	Number of Minutes
Lunch	45
Study Hall	45



للحجز التواصل عبر الـ Whatsapp من خلال الضغط على الرقم:

0566991363

مع أطيب التمنيات بالنجاح والتوفيق ...
النهاية ...