

دليل حساب النسبة المئوية للتغير



تم تحميل هذا الملف من موقع المناهج الإماراتية

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

تاريخ إضافة الملف على موقع المناهج: 11:11:01 2026-09-06

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 ا للمدرس

المزيد من مادة
رياضيات:

إعداد: Aghead

التواصل الاجتماعي بحسب الصف السابع



صفحة المناهج
الإماراتية على
فيسبوك

الرياضيات

اللغة الانجليزية

اللغة العربية

التربية الاسلامية

المواد على تلغرام

المزيد من الملفات بحسب الصف السابع والمادة رياضيات في الفصل الأول

الوحدة الثالثة: عمليات على الأعداد الصحيحة منهج ريفيل

1

ملازم وحدات الفصل الاول منهج ريفيل تحتوي على شرح الدروس بالإضافة الى تمارين الكتاب على شكل اختر
الاجابة الصحيحة 2026-2027

2

مصفوفة المدى والتتابع

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الوحدة الأولى: النسب والاستدلال التناسبي

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وزارة التربية والتعليم
MINISTRY OF EDUCATION

صف السابع رياضيات ريفيل الوحدة الثانية

Solve Percent Problems

احجز مكانك واستعد للامتحان بثقة كاملة

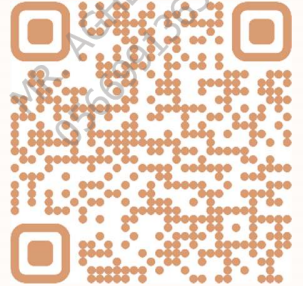
احصل على الشرح الكامل للصف من خلال:

التواصل والحجز عبر الـ Whatsapp
اضغط على الرقم: 0566991363



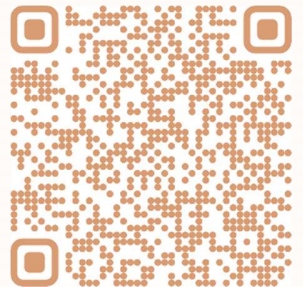
Mr. Aghead

للتواصل والحجز

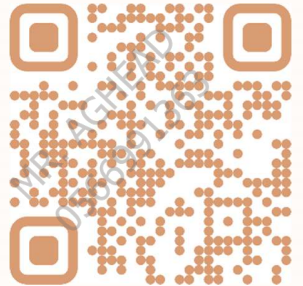


للانتقال إلى المواقع
اضغط هنا

شرح الدروس



انضم للقناة



للتواصل اضغط الرقم:
0566991363

Mr. Ahead

يمكنكم الحصول على

شرح دروس
الفصل كامل



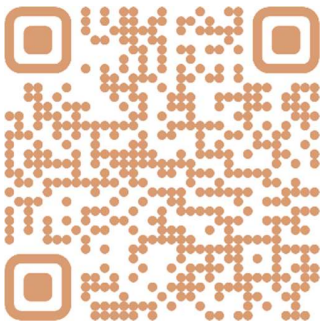
اختبارات

99 ب
درهم فقط

ملازم
محلولة

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 2-1 - Percent of Change

Mastering Percent of Change: A Step-by-Step Guide

Percent of change is a ratio that compares the change in a quantity to the original amount, classified as a **percent of increase** or **decrease**.



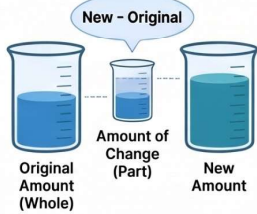
Percent of Increase

Occurs when the new amount is greater than the original amount (e.g., gas prices rising).



Step 1: Identify the Part and the Whole

Determine the original amount (the whole) and calculate the amount of change (the part).



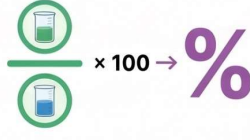
Step 2: Write the Part-to-Whole Ratio

Set up a fraction where the amount of change is divided by the original amount.



Step 3: Convert to a Percent

Divide the numbers and rewrite the resulting decimal or fraction as a rate per 100.



Percent of Decrease

Occurs when the new amount is less than the original amount (e.g., a liquid volume dropping).



Real-World Calculation Examples

Scenario	Original Amount	New Amount	Percent of Change
Student Enrollment	650 students	780 students	20% Increase
Gas Prices	\$1.50	\$3.30	120% Increase
Chemistry Experiment	25.2 mL	18.9 mL	25% Decrease

دليل حساب النسبة المئوية للتغير (خطوة بخطوة)

زيادة أم نقصان؟



نسبة نقصان

و"نسبة نقصان" إذا انخفضت القيمة الأصلية.



نسبة زيادة

تسمى "نسبة زيادة" إذا ارتفعت القيمة الأصلية.

ما هي النسبة المئوية للتغير؟

هي نسبة تقارن مقدار التغير في الكمية بالنسبة إلى الكمية الأصلية (الكل).



الخطوة 3

التحويل إلى نسبة مئوية

$$0.XX \times 100 = \%$$

اضرب الناتج في 100 وضع رمز النسبة المئوية (%) لتصل إلى النتيجة النهائية.

الخطوة 2

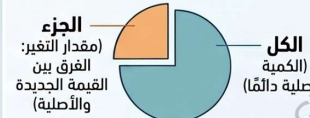
كتابة النسبة وقسمتها

$$\left(\frac{\text{الجزء}}{\text{الكل}} \right) \div 0.XX$$

اكتب النسبة بصيغة (الجزء ÷ الكل) ثم قم بإجراء عملية القسمة للحصول على كسر عشري.

الخطوة 1

تحديد "الجزء" و"الكل"



"الكل" هو الكمية الأصلية دائماً، و"الجزء" هو مقدار التغير (الفرق بين القيمة الجديدة والأصلية).

❖ **Example 1, Check**

1. A certain brand of shampoo contains 12 ounces in a bottle. The company decides to redesign the shape of the shampoo bottle. The new type of bottle contains 15 ounces of shampoo. What is the percent of increase in the amount of shampoo the new bottle contains? Use any strategy.

A	15%
B	25%
C	30%
D	45%

❖ **Example 2, Check**

2. Frankie calculated that she would need 9.5 yards of wallpaper to decorate her room. The wallpaper she chose had a large pattern, so instead she needed 13 yards of that paper. What is the percent of increase, rounded to the nearest percent, in the amount of wallpaper she needs?

A	30%
B	33%
C	37%
D	40%

❖ **Example 3, Check**

3. When resting, a spring measures 73.3 millimeters. When the spring is compressed, it measures 51.29 millimeters. Find the percent of decrease in the length of the spring. Round to the nearest percent if necessary. Use any strategy.

A	30%
B	33%
C	37%
D	40%

❖ **Apply, Check**

4. The graph shows Alexa's bank account balance over the past four months. Between which consecutive months is the percent of increase the least?

A	March and february
B	january and April
C	March and january
D	March and April

❖ **practice:**

5. 8 feet to 10 feet (Examples 1-3)

A	37.5% decrease
B	25% increase
C	37.5% increase
D	50% decrease

6. 62 trees to 31 trees (Examples 1-3)

A	37.5% decrease
B	25% increase
C	37.5% increase
D	50% decrease

7. 136 days to 85 days (Examples 1-3)

A	37.5% decrease
B	25% increase
C	37.5% increase
D	50% decrease

8. Last month, the online price of a powered ride-on car was \$250. This month, the online price is \$330. What is the percent of increase for the price of the car? (Example 1)

A	32%
B	48.5%
C	30%
D	10.7%

9. At end of the first half of a football game, Nathan had carried the ball for 50.5 yards. By the end of the game, he carried the ball for a total of 75 yards. Find the percent of increase in the number of yards he carried. Round to the nearest whole tenth if necessary. (Example 1)

A	32%
B	48.5%
C	30%
D	10.7%

10. A music video website received 5,000 comments on a new song they released. The next day, the artist performed the song on television and an additional 1,500 comments were made on the website. What was the percent of increase? (Example 1)

A	32%
B	48.5%
C	30%
D	10.7%

11. When Ricardo was 9 years old, he was 56 inches tall. Ricardo is now 12 years old and he is 62 inches tall. Find the percent of increase in Ricardo's height to the nearest tenth. (Example 1)

A	7.1%
B	56.6%
C	30.6%
D	10.7%

12. At a garage sale, Petra priced her scooter for \$15.50. She ended up selling it for \$10.75. Find the percent of decrease in the price of the scooter. Round to the nearest tenth if necessary. (Example 2)

A	7.1%
B	56.6%
C	30.6%
D	10.7%

13. At the beginning of a baking session, there were 2.26 kilograms of flour in the bag. By the end of the baking session, there was 0.98 kilogram of flour in the bag. What is the percent of decrease, rounded to the nearest tenth, for the amount of flour? (Example 2)

A	7.1%
B	56.6%
C	30.6%
D	10.7%

Lesson 2-2 - Tax

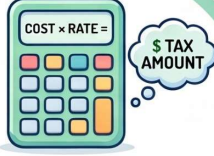
Mastering Tax Calculations: A Step-by-Step Guide

A tax is an additional amount of money added to the price of goods or services, typically calculated as a percentage. To find the total cost, one must determine the tax amount using proportions or equations and add it to the original price.



1. Identify Price and Rate

Clearly define the original cost and the specific percentage of the tax.



2. Calculate the Tax Amount

Multiply the cost by the rate to find the specific dollar amount of tax.



3. Find the Total Cost

Add the calculated tax amount to the original selling price for the final result.

Solution Methods



Use Ratio Reasoning

$$\frac{\text{Tax Amount}}{\text{Total Cost}} = \frac{\text{Rate}}{100}$$

Set up a proportion relating the tax amount to the total cost over 100.



Apply Properties of Operations

$$\text{Original Cost} \times (\text{Tax Rate as Decimal}) = \text{Tax Amount}$$

Multiply the original cost by the tax rate written as a decimal.



The Direct Equation Method

$$\text{Total Cost} = \text{Price} \times (1 + \text{Tax Rate})$$

Calculate the total cost by multiplying the price by (1 + tax rate).

Examples of Different Tax Types



Sales Tax
General goods like clothing or sports equipment



Hotel Tax
Lodging and room rentals for travel



Income/Property
Revenue used to pay for government-provided services

دليل مبسط لحساب ضريبة المبيعات

الضريبة هي مبلغ مالي يُضاف إلى سعر السلع أو الخدمات لتمويل الخدمات الحكومية. يركز هذا الدليل على خطوات تحويل تحويل نسبة الضريبة المئوية إلى قيمة نقدية ثم إضافتها للسعر الأصلي للوصول إلى التكلفة الإجمالية.

خطوات الحل (طريقة الحساب)

مثال عملي (سلعة بـ 100 ريال وضريبة 7.5%)



الضريبة = 7.5 ريال،
إذن الإجمالي = 107.5 ريال.

الخطوة 2: الجمع للوصول للنتائج

أضف قيمة الضريبة الناتجة من الخطوة الأولى إلى السعر الأصلي للسلعة.

الخطوة 1: حساب قيمة الضريبة

اضرب سعر السلعة في نسبة الضريبة (بعد تحويل النسبة المئوية إلى كسر عشري).



غرفة فندق (ليلتين)

السعر الأصلي: 280.00
نسبة الضريبة: 12%

التكلفة الإجمالية: 310.75



معدات رياضية

السعر الأصلي: 140.00
نسبة الضريبة: 5.75%

التكلفة الإجمالية: 148.05



قميص رياضي

السعر الأصلي: 10.00
نسبة الضريبة: 7.5%

التكلفة الإجمالية: 10.75

أساسيات الضريبة
(مفاهيم أولية)

ما هي ضريبة المبيعات؟

مبلغ إضافي يُفرض على السلع والخدمات ويُحسب كنسبة مئوية من السعر الأصلي.

معادلة التكلفة الإجمالية



قيمة الضريبة المحسوبة

سعر البيع الأصلي

التكلفة الإجمالية

❖ **Example 1, Check**

1. Ashley is buying a laptop that sells for \$749. The sales tax rate in her city is $8\frac{1}{4}\%$. What is the total cost for the laptop? Round your answer to the nearest cent. Use any strategy.

A	\$810
B	\$810.7
C	\$810.79
D	667.95 \$

❖ **Example 2, Check**

2. The cost of a hotel room for 5 nights is \$610. There is a 9.5% hotel tax. What is the total cost of the hotel room? Use any strategy.

A	\$810
B	\$810.7
C	\$810.79
D	667.95 \$

❖ **Example 3, Check**

3. Jimena purchased \$24 worth of crafting supplies. The tax rate in her city is 6.25%. What is the total cost of the crafting supplies? Use any strategy.

A	25 \$
B	25.50 \$
C	20 \$
D	20.50 \$

❖ **Apply check:**

4. The table shows the items that Victoria purchased at the market. In her city, there is an 8% sales tax on all items, except for food. How much money does Victoria spend at the market? Round to the nearest cent if necessary.

Item	Cost (\$)
Cereal	3.55
Milk	3.10
Laundry Detergent	8.95
Yogurt	5.35
Dish Soap	2.95

A	25 \$
B	25.50 \$
C	24.85 \$
D	20.50 \$

❖ **Practice:**

5. \$18 breakfast; 7% tax (Examples 1-3)

A	52.45 \$
B	71.74 \$
C	25.44 \$
D	19.26 \$

6. \$24 shirt; 6% tax (Examples 1-3)

A	52.45 \$
B	71.74 \$
C	25.44 \$
D	19.26 \$

7. \$49.95 pair of shoes; 5% tax (Examples 1-3)

A	52.45 \$
B	71.74 \$
C	25.44 \$
D	19.26 \$

8. Emily wants to buy new boots that cost \$68.
The sales tax rate in her city is $5\frac{1}{2}\%$. What is
the total cost for the boots? (Example 1)

A	52.45 \$
B	71.74 \$
C	25.44 \$
D	19.26 \$

9. Jack wants to buy a coat that costs \$74.95.
The sales tax rate in his city is $6\frac{1}{2}\%$. What is
the total cost for the coat? (Example 1)

A	32.66 \$
B	79.82 \$
C	235.20 \$
D	359.13 \$

10. Mr. Phuong stayed in a hotel room for 2 nights that cost \$210. The hotel room tax rate in the city is 12%. What is the total cost for the hotel room?

(Example 2)

A	32.66 \$
B	79.82 \$
C	235.20 \$
D	359.13 \$

11. The cost of a hotel room during Lacy's trip is \$325. The hotel room tax in the city she is in is 10.5%. What is the total cost of the hotel room? (Example 2)

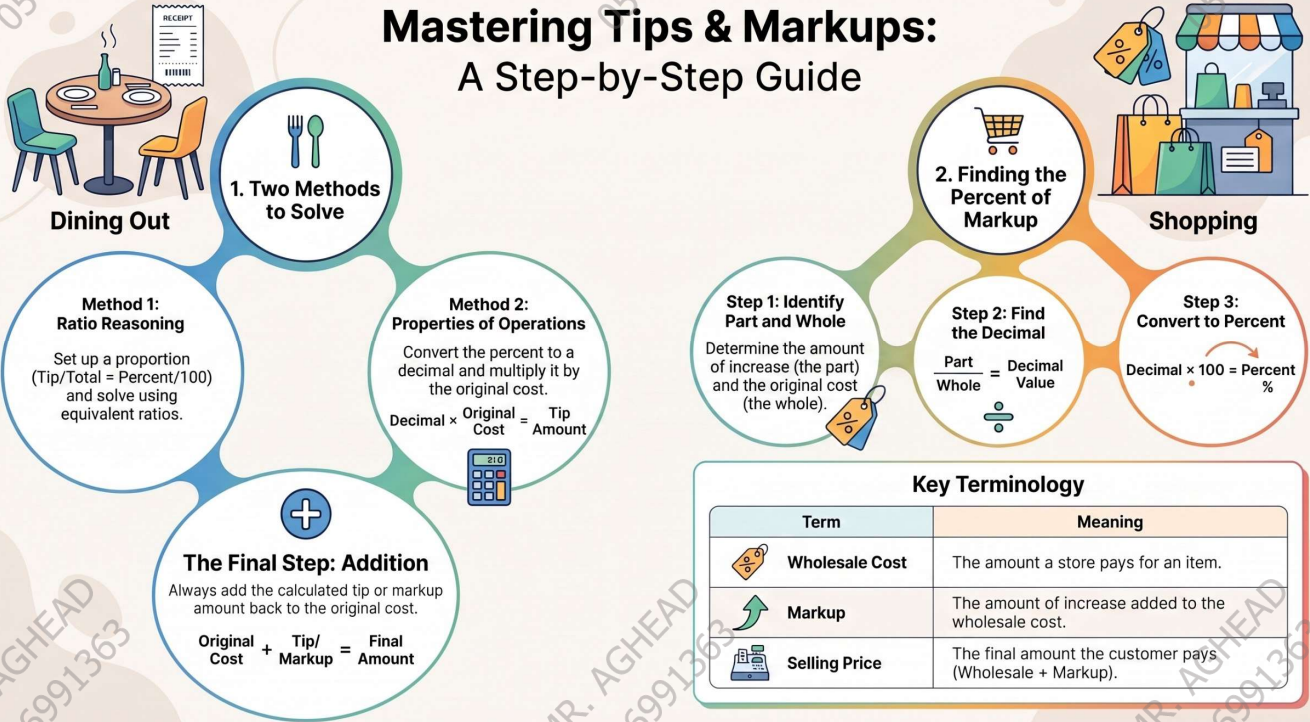
A	32.66 \$
B	79.82 \$
C	235.20 \$
D	359.13 \$

12. Robert spends \$30.45, before tax, at the bookstore. If the sales tax rate in his city is 7.25%, what is the total cost of his purchase? (Example 3)

A	32.66 \$
B	79.82 \$
C	235.20 \$
D	359.13 \$

Lesson 2-3 - Tips and Markups

Mastering Tips & Markups: A Step-by-Step Guide



دليل حساب الإكramيات وزيادة الأسعار (هامش الربح)

يوضح هذا المحتوى كيفية استخدام العلاقات التناسبية والعمليات الحسابية لإيجاد قيم الزيادات المئوية. سواء كنت تدفع إكramية في مطعم أو تحدد سعر بيع منتج في متجر، تتبع العملية نفس التسلسل المنطقي لتحويل النسبة المئوية إلى مبلغ تقدي ثم إضافته للتكلفة الأصلية.



مثال تطبيقي (سعر البيع)
إذا كان سعر الجملة \$17 والزيادة 125%، فإن السعر النهائي يصبح \$38.25.
 $17\$ + (17\$ \times 1.25) = 17\$ + 21.25\$ = 38.25\$$

القسم الثاني: الوصول إلى السعر الإجمالي النهائي

قاعدة الجمع النهائي



السعر الإجمالي = السعر الأصلي + مبلغ الزيادة الذي تم حسابه.

الطريقة الأولى: التناسب المئوي

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



كتابة تناسب (الجزء/الكل = النسبة/100) وحله لإيجاد قيمة الزيادة "x".

الطريقة الثانية: الضرب المباشر



تحويل النسبة المئوية إلى كسر عشري وكسر عشري وضربها مباشرة في السعر الأصلي.

القسم الأول: خطوات حساب مبلغ الزيادة (الإكramية أو الهامش)



تحديد المعطيات الأساسية
حدد السعر الأصلي (سعر الجملة أو الخدمة) والنسبة المئوية المطلوب المبلغ زيادتها.

مقارنة المصطلحات الأساسية

المصطلح	التعريف	المعادلة الأساسية
الإكramية (Tip)	مبلغ إضافي مقابل خدمة	السعر الأصلي + الإكramية
هامش الربح (Markup)	مبلغ يضاف لسعر الجملة للربح	سعر الجملة + هامش الربح
سعر البيع (Selling Price)	المبلغ الذي يدفعه الزبون	التكلفة + الزيادة المئوية

❖ Example 1 check

1. Amy wants to tip her hairstylist 20% for a haircut that costs \$48. What is her total bill with tip? Use any strategy.

A	7.72 \$
B	57.60 \$
C	59.36 \$
D	60 \$

❖ Example 2 check

2. The wholesale cost for a basketball backboard is \$32. If the markup is $85\frac{1}{2}\%$, what is the selling price? Use any strategy.

A	7.72 \$
B	57.60 \$
C	59.36 \$
D	60 \$

❖ Example 3 check

3. Mikka is making jewelry for a craft show. The wholesale cost of a bracelet is \$12.50. If she sells them for \$20, what is the percent of markup?

A	7.72 %
B	57.60 %
C	59.36 %
D	60 %

❖ **Apply check**

4. Brian has \$24 worth of pizza delivered to his house. He pays the bill plus a 15% tip and 7% sales tax. He also pays a \$3 delivery fee that is charged after the tax and tip. How much change does he receive, if he pays with two \$20 bills?

A	7.72 \$
B	57.60 \$
C	59.36 \$
D	60 \$

❖ **Practice:**

5. 20\$ haircut; 10% tip (Examples 1 and 2)

A	22.00 \$
B	27.60 \$
C	28.32 \$
D	194.25 \$

6. \$24 lunch; 15% tip (Examples 1 and 2)

A	22.00 \$
B	27.60 \$
C	28.32 \$
D	194.25 \$

7. \$185 TV; 5% markup (Examples 1 and 2)

A	22.00 \$
B	27.60 \$
C	28.32 \$
D	194.25 \$

8. Vera went to the local salon to get a haircut. The cost was \$24. Vera tipped the hair stylist 18%. What was the total cost of haircut including the tip? Round to the nearest cent. (Example 1)

A	22.00 \$
B	27.60 \$
C	28.32 \$
D	194.25 \$

9. The Gomez family ordered \$39.50 worth of pizza and subs. They gave the delivery person a 20% tip. What was the total cost of the food and tip? Round to the nearest cent. (Example 1)

A	30.00 \$
B	27.60 \$
C	47.40 \$
D	131.63 \$

10. The wholesale cost of a bicycle is \$98.75. The markup for the bicycle is 33.3%. Find the selling price of the bicycle. Round to the nearest cent.

(Example 2)

A	30.00 \$
B	27.60 \$
C	47.40 \$
D	131.63 \$

11. The wholesale cost for a purse in a department store is \$12.50. The store plans to mark up the purse by 140%. What will be the selling price of the purse? Round to the nearest cent. (Example 2)

A	30.00 \$
B	27.60 \$
C	47.40 \$
D	131.63 \$

12. Keri is making doll clothes for a holiday craft show. The wholesale cost of the materials for one outfit is \$9.38. If she sells an outfit for \$15, what is the percent of markup? Round to the nearest percent. (Example 3)

A	50 %
B	55 %
C	60 %
D	70 %

13. A pet store sells a large dog kennel for \$98.50. The wholesale cost of the kennel is \$63.55. What is the percent of markup? Round to the nearest percent. (Example 3)

A	50 %
B	55 %
C	60 %
D	70 %

Lesson 2-4 – Discounts

Smart Shopping: Mastering Discount Calculations

A step-by-step guide to calculating sale prices using proportional reasoning.

THE FOUNDATION OF DISCOUNTS



What is a Discount?
The amount by which the regular price of an item is reduced.

The Core Equation

$$\text{SALE PRICE} = \text{ORIGINAL PRICE} - \text{DISCOUNT}$$



Percents represent a decrease:

A discount percentage is always a percent of decrease from the original 100%.

STEP-BY-STEP: FINDING THE SALE PRICE

STEP 1

Find the "Paying Percentage"
Subtract the discount percent from 100% to see what portion you actually pay.



STEP 2

Set Up the Proportion



Place the Sale Price over the Original Price, equal to the Percent over 100.

STEP 3

Solve for the Unknown



Multiply the Original Price by the decimal form of the paying percentage.

HANDLING COMBINED DISCOUNTS



Discounts are Sequential
Do not add percentages together; apply them one at a time.



The "New Original" Rule
After the first discount, the new price becomes the "Original Price" for the second calculation.

VISUALIZING COMBINED DISCOUNTS

(Example: \$375 Tablet)



دليل حساب الخصومات والأسعار (دليل الصف السابع)

تعليم الطلاب كيفية حساب قيمة الخصم وسعر البيع النهائي باستخدام التناسب الرياضي.

طرق الحل لحساب سعر البيع

التعامل مع الخصومات المتعددة



احسب السعر بعد الخصم الأول، ثم استخدم النتيجة كـ "سعر أصلي جديد" لتطبيق الخصم الثاني.

الطريقة الثانية: طرح النسبة المئوية من 100%



اخرج نسبة الخصم من 100% ثم استخدم النسبة المتبقية لإيجاد سعر البيع مباشرة.

$$\frac{\text{سعر البيع}}{\text{السعر الأصلي}} = \frac{\text{النسبة المتبقية}}{100}$$

$$\text{نسبة الخصم} = 100\% - \text{نسبة السعر الأصلي} = \text{النسبة المتبقية}$$

الطريقة الأولى: إيجاد قيمة الخصم أولاً



اكتب تناسباً لإيجاد قيمة الخصم (d)، ثم اطحها من السعر الأصلي.

$$\frac{\text{نسبة الخصم}}{\text{السعر الأصلي}} = \frac{\text{قيمة الخصم}}{100}$$

$$\text{قيمة الخصم} = (d) - \text{السعر الأصلي} = \text{سعر البيع}$$

فهم الأساسيات والعمليات الأولية



تعريف الخصم (Discount)

هو المبلغ الذي يتم به تخفيض السعر الأصلي للسلعة، ويمثل نسبة مئوية من الانخفاض.

القاعدة الذهبية لحساب سعر البيع

$$\text{سعر البيع} = \text{السعر الأصلي} - \text{قيمة الخصم}$$

❖ Example 1, Check

1. A restaurant decreased their prices for a day to their prices from 1964. A pizza that usually sells for \$15.40 was marked down 85%. What was the price of the pizza in 1964? Use any strategy.

A	138.45 \$
B	2.82 \$
C	2.31 \$
D	23.20 \$

❖ Example 2, Check

2. A clothing store marked all of their summer clothes down 50%. A sign in the store indicates that an additional 20% is to be taken off clearance prices. What is the final price of a top that originally sold for \$58?

A	138.45 \$
B	2.82 \$
C	2.31 \$
D	23.20 \$

❖ Example 3, Check

3. A pair of running shoes is on sale for \$125.99. If the sale price is discounted 9% from the original price, what is the original price? Round to the nearest cent.

A	138.45 \$
B	2.82 \$
C	2.31 \$
D	23.20 \$

❖ **Apply check**

4. A bike shop has two road bikes on sale. The Road Warrior has a regular price of \$379 and is discounted 25%. The Road Racer has a regular price of \$320 and is discounted 12%. If the sales tax rate is 6.5%, which bike has the less expensive sale price? How much will you save by buying that bike?

A	138.45 \$
B	2.82 \$
C	2.31 \$
D	23.20 \$

❖ **Practice:**

5. \$140 coat; 10% discount (Example 1)

A	126 \$
B	59.40 \$
C	60 \$
D	276.25 \$

6. \$80 boots; 25% discount (Example 1)

A	126 \$
B	59.40 \$
C	60 \$
D	276.25 \$

7. \$325 tent; 15% discount (Example 1)

A	126 \$
B	59.40 \$
C	60 \$
D	276.25 \$

8. A toy store is having a sale. A video game system has an original price of \$99. It is on sale for 40% off the original price. Find the sale price of the game system. Round to the nearest cent. (Example 1)

A	126 \$
B	59.40 \$
C	60 \$
D	276.25 \$

9. A yearly coffee club subscription costs \$65. Avery received an offer for 62% off the subscription cost. What is the sale price of the subscription? Round to the nearest cent. (Example 1)

A	375.15 \$
B	24.70 \$
C	160.42 \$
D	62.74 \$

10. During a clearance sale at a sporting goods store, skateboards were marked down 30%. On Saturday, an additional 25% was taken off already reduced prices of skateboards. If a skateboard originally cost \$119.50, what was the final price after all discounts had been taken? Round to the nearest cent. (Example 2)

A	375.15 \$
B	24.70 \$
C	160.42 \$
D	62.74 \$

11. At an electronics store, a smart phone is on sale for 35% off the original price of \$679. If you use the store credit card, you can receive an additional 15% off the sale price. What is the final price of the smart phone if you use the store credit card? Round to the nearest cent. (Example 2)

A	375.15 \$
B	24.70 \$
C	160.42 \$
D	62.74 \$

12. Gary had a 40% discount for new tires. The sale price of a tire was \$96.25. What was the original price of the tire? Round to the nearest cent. (Example 3)

A	375.15 \$
B	24.70 \$
C	160.42 \$
D	62.74 \$

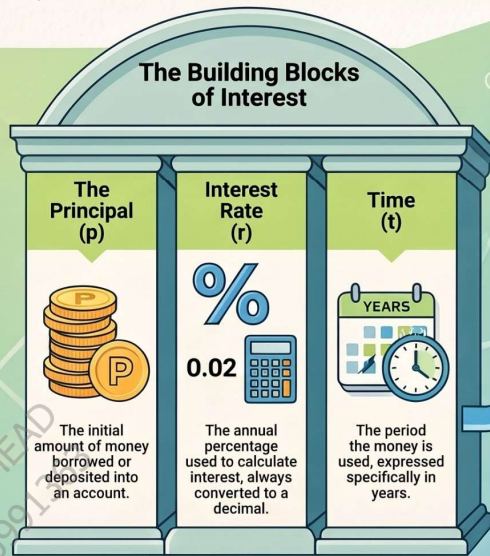
13. A swimsuit is on sale for \$45.50. If the sale price is discounted 5% from the original price, what was the original price? Round to the nearest cent.
(Example 3)

A	375.15 \$
B	24.70 \$
C	47.89 \$
D	62.74 \$

Lesson 2-5 Interest

Mastering Simple Interest: The $I = prt$ Method

Simple interest is the amount paid or earned for the use of money (the principal). By using the formula $I = prt$, anyone can calculate the financial impact of borrowing or saving money over a specific period.



4 Steps to Solve Any Interest Problem

1. Identify and Convert Variables

Write down p, r, and t; convert % to decimals and months to years.

2. Apply the Formula ($I = prt$)

$$I = p \times r \times t$$

Set up your equation by multiplying the principal, rate, and time together.

3. Calculate and Label

$$430 \times 0.02 \times 5 = \$$$

Perform the multiplication to find the total interest earned or owed in dollars.

Quick-Reference Example (\$430 deposit over 5 years at 2%)

Variable	Value	Step/Result
Principal (p)	\$430	Identify
Rate (r)	0.02	Convert 2% to Decimal
Time (t)	5 Years	Use Years
Total Interest (I)	\$43	$430 \times 0.02 \times 5$

دليل حساب الفائدة البسيطة ($I = prt$)

$$I = prt$$

خطوات الحل المنهجية

1. تحويل النسبة المئوية إلى كسر عشري

$$2.5\% \div 100 = 0.025$$

قم بقسمة معدل الفائدة على 100 (مثلاً: 2.5% تصبح 0.025).

2. التعويض في الصيغة الرياضية

$$I = p \cdot r \cdot t$$

اضرب رأس المال (p) في المعدل العشري (r) في عدد السنوات (t).

3. إيجاد الناتج النهائي

يمثل الناتج قيمة الفائدة ويمكن إضافة لرأس المال المعرفة المبلغ الإجمالي.

المفاهيم الأساسية للصيغة

رأس المال (p) والمعدل (r)

رأس المال هو المبلغ المودع أو المقرض، والمعدل هو النسبة المئوية السنوية للفائدة.

الزمن (t) بالسنوات

يجب التعبير عن الزمن بالسنوات؛ فمثلاً 6 أشهر تحسب كـ 0.5 سنة (6/12).

الفائدة البسيطة (I)

هي ناتج ضرب رأس المال في معدل الفائدة في الزمن ($I = prt$).

توضيح مثال عملي لحساب الفائدة البسيطة بناءً على المعطيات.

العنصر	القيمة المعطاة	المستخدمة في الحل
رأس المال (p)	\$430	430
معدل الفائدة (r)	2%	0.02
الزمن (t)	5 سنوات	5

❖ **Example 1 check**

1. Curtis deposits \$550 into a savings account. The account pays 1.75% simple interest on an annual basis. If he does not add or withdraw money from the account, how much interest will he earn after 3 years?

A	28.88 \$
B	437.38 \$
C	260 \$
D	13.44 \$

❖ **Example 2 check**

3. Carrie invests \$430 into a savings account. The account pays 2.5% simple interest on an annual basis. If she does not add or withdraw money from the account, how much interest will she earn after 15 months?

A	28.83 \$
B	437.38 \$
C	260 \$
D	13.44 \$

❖ **Example 3 check**

4. Abbie borrows \$3,216 at a rate of $6\frac{4}{5}\%$ per year. How much simple interest will she owe if it takes 2 years to repay the loan?

A	28.83 \$
B	437.38 \$
C	260 \$
D	13.44 \$

❖ Apply check

5. Donte is buying a car that costs \$8,000. He is deciding between a 3-year loan and a 4-year loan. Use the rates in the table to determine how much money he will save if he chooses the 3-year loan instead of the 4-year loan.

A	28.83 \$
B	437.38 \$
C	260 \$
D	13.44 \$

Time (y)	Simple Interest Rate (%)
3	2.25
4	2.5
5	3

❖ practice

6. \$530, 6%, 1 year (Example 1)

A	31.80 \$
B	46 \$
C	84 \$
D	157.50 \$

7. \$1,200, 3.5%, 2 years (Example 1)

A	31.80 \$
B	46 \$
C	84 \$
D	157.50 \$

8. \$750, 7%, 3 years (Example 1)

A	31.80 \$
B	46 \$
C	84 \$
D	157.50 \$

9. Elena's father put \$460 into a savings account for her. The account pays 2.5% simple interest each year. If he neither adds nor withdraws money from the account, how much interest will the account earn after 4 years? Round to the nearest cent. (Example 1)

A	31.80 \$
B	46 \$
C	84 \$
D	157.50 \$

10. Ethan put \$1,250 into a savings account. The account pays 4.5% simple interest on an annual basis. If he does not add or withdraw money from the account, how much interest will he earn after 2 years? Round to the nearest cent. (Example 1)

A	8.4 \$
B	55.35 \$
C	112.50 \$
D	288.75 \$

11. Marc deposits \$840 into a savings account. The account pays 2% simple interest on an annual basis. If he does not add or withdraw money from the account, how much interest will he earn after 6 months? Round to the nearest cent. (Example 2)

A	8.4 \$
B	55.35 \$
C	112.50 \$
D	288.75 \$

12. Nina's grandmother deposits \$3,000 into a savings account for her. The account pays 5.5% simple interest on an annual basis. If she does not add or withdraw money from the account, how much interest will she earn after 21 months? Round to the nearest cent. (Example 2)

A	8.4 \$
B	55.35 \$
C	112.50 \$
D	288.75 \$

13. Jack borrows \$2,700 at a rate of 8.2% per year. How much simple interest will he owe if it takes 3 months to repay the loan? Round to the nearest cent. (Example 3)

A	8.4 \$
B	55.35 \$
C	112.50 \$
D	288.75 \$

14. Liliya's parents borrow \$1,400 from the bank for a new washer and dryer. The interest rate is 7.5% per year. How much simple interest will they pay if they take 18 months to repay the loan? Round to the nearest cent. (Example 3)

A	157.50 \$
B	157.35 \$
C	112.50 \$
D	157.75 \$

Lesson 2-6 - Commission and Fees

Master the Math: How to Calculate Commission and Fees

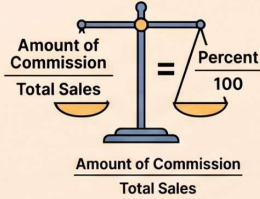
A clear, step-by-step guide for calculating commissions and service fees using proportional relationships.

Understanding Commission vs. Fee



Commission is a percentage of sales earned; a fee is a payment for a service.

The Universal Proportion Formula



Step 3: Solve for the Missing Value

$$\frac{\text{Commission}}{\$1,400} = \frac{20}{100}$$

$$\$280 \leftarrow \times 14$$



Multiply the numerator by the scale factor to find the final commission amount.

Step 1: Set Up the Proportion

$$\frac{[\text{Commission Amount}]}{[\text{Total Sales}]} = \frac{[\text{Percentage}]}{100}$$

Place the commission amount over the total sales and the percentage over 100.

Step 2: Identify the Scale Factor

$$\frac{\text{Commission}}{\$1,400} = \frac{20}{100} \times 14$$

Determine what number relates the denominators (e.g., if sales are \$1,400, the factor is 14).

Common Payment Structures

Payment Type	How it Works	
Hourly	Paid a set amount for every hour worked.	
Salary	Paid a fixed annual amount regardless of hours.	
Commission Only	Paid only a percentage of the total amount sold.	

دليل حساب العمولات والرسوم: خطوة بخطوة



طرق تقاضي الأجر

العمولة والرسوم

العمولة هي نسبة من المبيعات، بينما الرسوم هي مبلغ مقابل خدمة (ثابت أو نسبة).

خطوات حل مسألة العمولة (طريقة التناسب)

مثال تطبيقي: عمولة عقارية

نسبة العمولة: 5%

5 / 100

معادلة الحل: $\frac{c}{140,000} = \frac{5}{100}$

مبلغ العمولة الناتج: **7,000 دولار**

3. التحقق من المعقولية

مقارنة الناتج بالتقدير الذهني الأولي للتأكد من صحة الحل.

2. حل التناسب

استخدام الضرب التبادلي أو الاستدلال بالنسب لإيجاد القيمة المجهولة (c).

1. كتابة التناسب

نضع مبلغ العمولة (c) على سعر البيع ونساويه بالنسبة المئوية على 100.

❖ Example 1 check

1. Nathan sells jewelry and earns a 9.75% commission on every piece he sells. How much commission would he earn on a bracelet that sold for \$220? Use any strategy.

A	18 \$
B	21.45 \$
C	10.24 \$
D	2.42 \$

❖ Example 2 check

2. Quentin wants to earn at least \$945 this month in commission. What is the minimum amount he needs to sell if he earns a 5.25% commission?

A	18000 \$
B	21450 \$
C	10240 \$
D	49612 \$

❖ Example 3 check

3. Tickets for a concert are sold by online ticket resellers. One company charges a fee of 4% of the ticket price. Another company charges a flat fee of \$2.50. The ticket you want to buy costs \$60.50. If you buy the ticket online, which is the lesser fee?

A	18 \$
B	21.45 \$
C	10.24 \$
D	2.42 \$

❖ **Apply check**

4. Kelly has a job in sales that pays only a commission of 24% of her total monthly sales. She is offered a new job with a monthly salary of \$3,750 with a commission of 9.5% on her total monthly sales over \$12,500. If she estimates her total monthly sales will average \$20,000, which statement is correct?

- (A) The new job will pay more because she would earn \$4,462.50, and her current job only pays \$4,220.
- (B) The new job will pay more because she would earn \$4,742.75, and her current job only pays \$4,220.
- (C) Her current job will pay more because she will earn \$4,800, and the new job would only pay \$4,462.50.
- (D) Her current job will pay more because she will earn \$4,800, and the new job would only pay \$4,742.75.

❖ **Practice**

5. Mrs. Hollern works in a jewelry store and earns an 8.5% commission on every piece of jewelry she sells. How much commission would she earn for selling a necklace that costs \$4,600? (Example 1)

A	668.31 \$
B	16.745 \$
C	391 \$
D	27.273 \$

6. Booker's father sells computer software and earns a 4.25% commission on every software package he sells. How much commission would he earn on a software package that sold for \$15,725? Round to the nearest cent. (Example 1)

A	668,31 \$
B	16,745 \$
C	391 \$
D	27,273 \$

7. Chase wants to earn at least \$900 this month in commission. What is the minimum amount he needs to sell in order to earn \$900 if he earns a 3.3% commission on everything he sells? Round to the nearest dollar. (Example 2)

A	668,31 \$
B	16,745 \$
C	391 \$
D	27,273 \$

8. Sophia needs to earn at least \$1,800 each month to cover her living expenses. What is the minimum amount she needs to sell in order to earn at least \$1,800 if she earns a 10.75% commission on everything she sells? Round to the nearest dollar. (Example 2)

A	668,31 \$
B	16,745 \$
C	391 \$
D	27,273 \$

9. Mrs. Jackson needs to earn \$3,000 a month. How much does she need to sell if she earns 15% commission on everything she sells? (Example 2)

A	4481 \$
B	20000 \$
C	12000 \$
D	8200 \$

10. Raymond purchases concert tickets online for \$43.50. There is a 3% processing fee. What is the total cost of the tickets? Round to the nearest cent. (Example 3)

A	44.81 \$
B	20 \$
C	12 \$
D	8.20 \$

11. The table shows the shipping fee options for two online marketplaces. If you sell a smart phone online for \$115, which is the lesser fee? (Example 3)

A	44.81 \$
B	20 \$
C	12 \$
D	8.20 \$

Online Market	Shipping Fees
Deals	Flat fee of \$12
Sell UR Stuff	11% of selling price

Lesson 2-7 Percent Error

Mastering Percent Error: A Step-by-Step Guide

Percent error is a ratio that compares the inaccuracy of an estimate (amount of error) to the actual amount. It is expressed as a percentage to show how far off a prediction was from reality.

STEP 1: IDENTIFY THE VALUES

Find the Amount of Error

ACTUAL AMOUNT (THE WHOLE)
1,000

AMOUNT OF
ERROR (THE PART)
200

ESTIMATED AMOUNT
800

Subtract the lesser amount from the greater amount to find the positive difference.

Determine the "Whole"

The actual amount is always considered the "whole" in your ratio.

STEP 2: CALCULATE THE PERCENT

Set Up the Ratio

Amount of Error
(The Part)

200

200
1,000

Actual Amount
(The Whole)
1,000

Write the part-to-whole ratio as: **Amount of Error / Actual Amount.**

Divide and Convert

$$\frac{200}{1,000} \div 200 = 0.20\%$$

Actual Amount
(The Whole)
1,000

Divide the ratio to get a decimal, then rewrite it as a percent.

Example:

200 Error /
1,000 Actual

$$200 \div 1,000 = 0.20,$$

which equals a

20% error.

دليل حساب نسبة الخطأ المئوية

تعلم كيفية حساب دقة التقدير مقارنة بالقيمة الفعلية من خلال خطوات بسيطة.

خطوات الحل

3 التحويل إلى نسبة مئوية

اقسم البسط على المقام ثم اضرب الناتج في 100 لإيجاد النسبة المئوية النهائية.

$$\frac{\%}{\%} \div \frac{\text{البسط}}{\text{المقام}} \times 100 = \%$$



2 تحديد النسبة (الجزء إلى الكل)

ضع مقدار الخطأ (الجزء) فوق القيمة الفعلية (الكل) في صورة كسر.

مقدار الخطأ (الجزء)

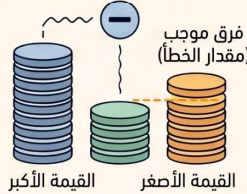


القيمة الفعلية (الكل)

$$\frac{\text{الجزء}}{\text{الكل}} = \frac{\text{مقدار الخطأ}}{\text{القيمة الفعلية}}$$

1 حساب مقدار الخطأ

ا طرح القيمة الأصغر من القيمة الأكبر للحصول على فرق موجب.



فرق موجب
(مقدار الخطأ)

المفاهيم الأساسية



ما هي نسبة الخطأ المئوية؟

هي نسبة مئوية تقارن مقدار الخطأ بالقيمة الفعلية (الحقيقية).

مقدار الخطأ
(Amount of Error)

هو الفرق الإيجابي (دائماً موجب) بين القيمة التقديرية والقيمة الفعلية.



الحضور الفعلي (القيمة الفعلية): 1,000 شخص
الحضور المقدر (التقدير): 800 شخص

20%

$$\text{مقدار الخطأ} = 1000 - 800 = 200$$

$$\text{نسبة الخطأ المئوية} = 100 \times \left(\frac{200}{1000} \right) \times 100 = 20\%$$

مثال توضيحي

❖ **Example 1 Check**

1. The Ramirez family was going on a trip. Their GPS system estimated that it would take them 4.25 hours to reach their destination. It actually took 5 hours because of stops. Find the percent error of the estimated time.

A	30 %
B	25 %
C	20 %
D	15 %

❖ **Apply check**

2. It is predicted that a softball team will win 35 out of their 50 games for their summer season. After 20 games, they have won 16. If the team continues to win at this rate, what will be the percent error of the prediction once the season is over?

A	30 %
B	25 %
C	15 %
D	12.5 %

❖ **Practice (Example 1)**

3. Doug estimates that his soccer team will win 7 games this year. The team actually wins 10 games. What is the percent error of Doug's estimate? Round the answer to the nearest tenth percent, if necessary.

A	12.3 %
B	30 %
C	36.9 %
D	52.4 %

4. A mayor estimates that 4,000 people will attend the first day of the county fair. A total of 8,400 people actually attend the first day of the fair. What is the percent error of the mayor's estimate? Round the answer to the nearest tenth percent, if necessary.

A	12.3 %
B	30 %
C	36.9 %
D	52.4 %

5. Maya estimates that the wait time for her favorite roller coaster is 35 minutes. The actual wait time is 55.5 minutes. What is the percent error of Maya's estimate? Round the answer to the nearest tenth of a percent, if necessary.

A	12.3 %
B	30 %
C	36.9 %
D	52.4 %

6. Oliver estimates the weight of his cat to be 16 pounds. The actual weight of his cat is 14.25 pounds. What is the percent error of Oliver's estimate rounded to the nearest tenth of a percent

A	12.3 %
B	30 %
C	36.9 %
D	52.4 %

7. A jar of marbles should contain 100 marbles. The jar actually has 99 marbles. What is the percent error to the nearest hundredth of a percent?

A	1.1 %
B	1.01 %
C	5.96 %
D	34.1 %

8. A cyclist estimates that he will bike 80 miles this week. He actually bikes 75.5 miles. What is the percent error of the cyclist's estimate rounded to the nearest hundredth of a percent?

A	1.1 %
B	1.01 %
C	5.96 %
D	34.1 %

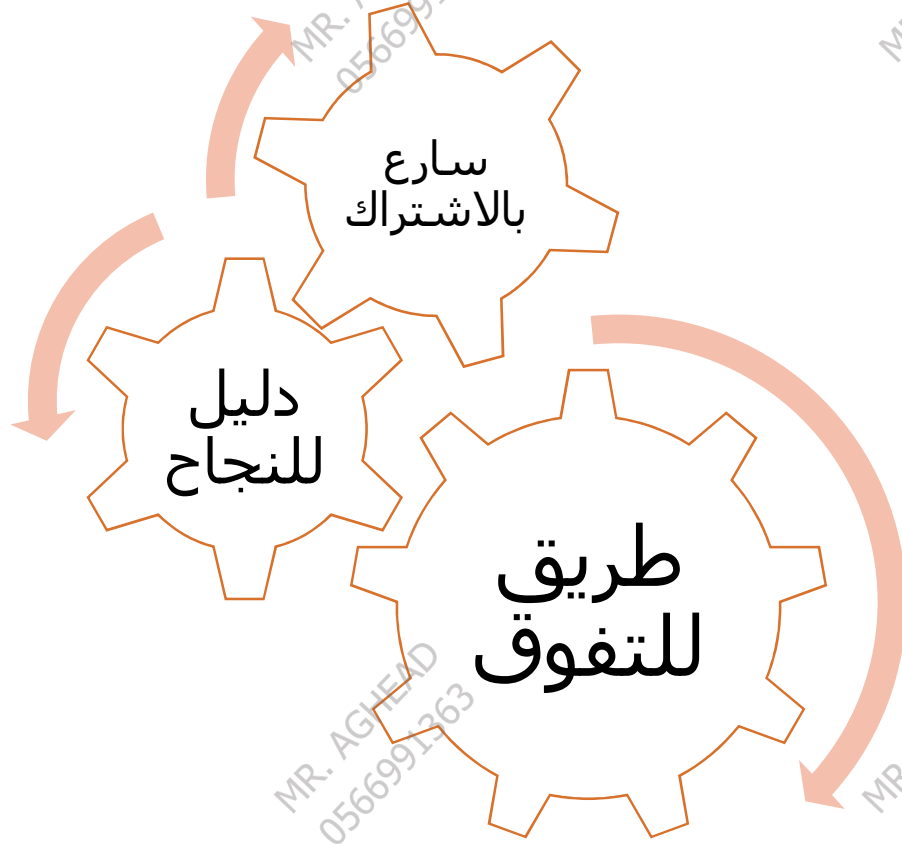
9. The table shows the predicted and actual amount of snow for a local city. What is the percent error for the amount of snowfall? Round the answer to the nearest tenth of a percent if necessary.

A	1.1 %
B	1.01 %
C	5.96 %
D	34.1 %

	Snowfall (inches)
Predicted	6.75
Actual	10.25

Mr. Ahead

للتواصل اضغط الرقم:
0566991363



للحجز التواصل عبر الـ Whatsapp من خلال الضغط على الرقم:

0566991363

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

للتواصل اضغط الرقم: 0566991363

احصل على الشرح كاملاً بـ 99 درهم فقط