

GARETH BUYS TWO ORANGES. HE PAYS WITH A 1 COIN AND GETS 52P CHANGE. WORK OUT THE COST OF ONE ORANGE.

GARETH BUYS TWO ORANGES. HE PAYS WITH A 1 COIN AND GETS 52P CHANGE. WORK OUT THE COST OF ONE ORANGE.

UNDERSTANDING THE SCENARIO WHERE GARETH BUYS TWO ORANGES, PAYS WITH A ONE-POUND COIN, AND RECEIVES 52P IN CHANGE IS A CLASSIC PROBLEM THAT COMBINES BASIC ARITHMETIC, PROBLEM-SOLVING SKILLS, AND AN UNDERSTANDING OF CURRENCY. THIS ARTICLE WILL EXPLORE THE PROBLEM IN DETAIL, BREAK DOWN THE STEPS TO FIND THE COST OF ONE ORANGE, AND PROVIDE USEFUL TIPS TO APPROACH SIMILAR PROBLEMS. WHETHER YOU ARE A STUDENT PREPARING FOR MATH EXAMS OR SOMEONE INTERESTED IN PRACTICAL MONEY CALCULATIONS, THIS COMPREHENSIVE GUIDE WILL CLARIFY THE PROCESS.

THE CONTEXT OF THE PROBLEM

THE PROBLEM PROVIDES US WITH SPECIFIC DETAILS:

- GARETH BUYS TWO ORANGES.
- HE PAYS WITH A 1 COIN (WHICH REFERS TO A £1 COIN).
- HE RECEIVES 52P CHANGE.

FROM THIS, OUR GOAL IS TO DETERMINE THE COST OF ONE ORANGE.

UNDERSTANDING THE KEY INFORMATION

BEFORE JUMPING INTO CALCULATIONS, LET'S ORGANIZE THE INFORMATION:

- TOTAL AMOUNT PAID: £1 (OR 100P)
- CHANGE RECEIVED: 52P
- TOTAL COST OF TWO ORANGES: ?

STEP 1: FIND THE TOTAL COST OF THE TWO ORANGES

GIVEN THAT GARETH PAID £1 AND RECEIVED 52P CHANGE, WE CAN FIND THE TOTAL COST OF THE ORANGES BY SUBTRACTING THE CHANGE FROM THE AMOUNT PAID.

CALCULATION:

$$\begin{aligned} & \backslash \\ & \text{\text{TOTAL COST OF TWO ORANGES}} = \text{\text{AMOUNT PAID}} - \text{\text{CHANGE}} \\ & \backslash \end{aligned}$$

$$\begin{aligned} & \backslash \\ & \text{\text{TOTAL COST OF TWO ORANGES}} = 100\text{p} - 52\text{p} = 48\text{p} \\ & \backslash \end{aligned}$$

RESULT:

- THE COMBINED COST OF THE TWO ORANGES IS 48P.

STEP 2: CALCULATE THE COST OF ONE ORANGE

SINCE THE TOTAL COST FOR TWO ORANGES IS 48p, TO FIND THE COST OF A SINGLE ORANGE, DIVIDE THE TOTAL COST BY 2.

CALCULATION:

$$\begin{aligned} & \backslash[\\ & \backslash\text{TEXT}\{\text{COST OF ONE ORANGE}\} = \backslash\text{FRAC}\{48\text{p}\}{2} = 24\text{p} \\ & \backslash] \end{aligned}$$

RESULT:

- THE COST OF ONE ORANGE IS 24p.

SUMMARY OF CALCULATION

STEP	CALCULATION	RESULT
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TOTAL PAID	£1 OR 100p	100p
LESS CHANGE	52p	48p
COST OF 2 ORANGES	48p	—
COST OF 1 ORANGE	48p ÷ 2	24p

ADDITIONAL CONSIDERATIONS AND VARIATIONS

WHILE THIS PROBLEM APPEARS STRAIGHTFORWARD, UNDERSTANDING THE PROCESS HELPS IN TACKLING VARIOUS SIMILAR PROBLEMS. HERE ARE SOME COMMON VARIATIONS AND CONSIDERATIONS:

1. DIFFERENT DENOMINATIONS OF CURRENCY

- IF THE PAYMENT WAS MADE WITH A DIFFERENT COIN OR NOTE (E.G., A £5 NOTE), THE CALCULATION PROCESS REMAINS SIMILAR BUT WITH DIFFERENT NUMBERS.

2. MULTIPLE ITEMS AND DISCOUNTS

- FOR MORE COMPLEX SCENARIOS INVOLVING DISCOUNTS OR MULTIPLE ITEMS, BREAK DOWN THE TOTAL COST SIMILARLY.

3. DEALING WITH DECIMAL VALUES

- WHEN WORKING WITH POUNDS AND PENCE, CONVERT EVERYTHING INTO THE SMALLEST UNIT (PENCE) FOR SIMPLICITY.

PRACTICAL APPLICATIONS OF SUCH PROBLEMS

UNDERSTANDING HOW TO WORK OUT PRICES BASED ON PAYMENT AND CHANGE IS USEFUL IN MANY REAL-LIFE SCENARIOS, INCLUDING:

- SHOPPING AND BUDGETING
- CALCULATING UNIT PRICES
- UNDERSTANDING DISCOUNTS AND OFFERS
- FINANCIAL LITERACY AND MONEY MANAGEMENT

COMMON MISTAKES TO AVOID

WHEN SOLVING PROBLEMS LIKE THIS, WATCH OUT FOR THE FOLLOWING ERRORS:

- CONFUSING TOTAL AMOUNT PAID WITH THE COST OF ITEMS.
- INCORRECTLY SUBTRACTING CHANGE FROM THE TOTAL AMOUNT PAID.
- FAILING TO CONVERT POUNDS TO PENCE OR VICE VERSA FOR CONSISTENT UNITS.
- NOT DIVIDING THE TOTAL COST BY THE NUMBER OF ITEMS TO FIND INDIVIDUAL PRICES.

PRACTICE EXERCISES

TO STRENGTHEN YOUR UNDERSTANDING, TRY SOLVING SIMILAR PROBLEMS:

1. IF GARETH PAYS WITH A 2 COIN AND GETS 75P CHANGE AFTER BUYING 3 ORANGES, WHAT IS THE COST OF ONE ORANGE?
2. A SHOPKEEPER RECEIVES A £5 NOTE AND GIVES BACK £2.50 CHANGE AFTER SELLING 5 ITEMS. WHAT IS THE PRICE OF EACH ITEM?
3. JANE PAYS WITH A £10 NOTE FOR 4 APPLES, AND THE CHANGE SHE RECEIVES IS £3. SHE BOUGHT 4 APPLES. WHAT IS THE COST OF ONE APPLE?

TIPS FOR SOLVING MONEY-RELATED WORD PROBLEMS

- CONVERT ALL CURRENCIES TO THE SAME UNIT (PENCE OR POUNDS).
- WRITE DOWN WHAT IS KNOWN AND WHAT YOU NEED TO FIND.
- USE SIMPLE SUBTRACTION TO FIND TOTAL COST IF CHANGE AND PAYMENT ARE GIVEN.
- DIVIDE TOTAL COST BY THE NUMBER OF ITEMS TO FIND THE UNIT PRICE.

CONCLUSION

THE PROBLEM OF GARETH BUYING TWO ORANGES, PAYING WITH A £1 COIN, AND RECEIVING 52P CHANGE CAN BE SOLVED SYSTEMATICALLY BY UNDERSTANDING THE RELATIONSHIPS BETWEEN PAYMENT, CHANGE, AND TOTAL COST. BY SUBTRACTING THE CHANGE FROM THE AMOUNT PAID, WE FIND THE TOTAL COST OF THE ORANGES, AND DIVIDING THAT BY THE NUMBER OF ORANGES YIELDS THE COST OF ONE ORANGE.

IN SUMMARY:

- TOTAL COST OF TWO ORANGES = 48p
- COST OF ONE ORANGE = 24p

THIS PROBLEM EXEMPLIFIES FUNDAMENTAL ARITHMETIC SKILLS APPLICABLE IN EVERYDAY FINANCIAL SITUATIONS. MASTERING SUCH CALCULATIONS ENHANCES MATHEMATICAL CONFIDENCE AND FINANCIAL LITERACY, EQUIPPING YOU TO HANDLE VARIOUS REAL-WORLD MONEY PROBLEMS EFFICIENTLY.

KEYWORDS FOR SEO OPTIMIZATION

- GARETH BUYS TWO ORANGES
- COST OF ONE ORANGE
- MONEY PROBLEM SOLUTIONS
- CHANGE CALCULATION
- BASIC ARITHMETIC IN MONEY
- WORD PROBLEMS INVOLVING CURRENCY
- HOW TO FIND UNIT PRICE

- MONEY AND SHOPPING PROBLEMS
- MATHEMATICAL PROBLEM-SOLVING
- FINANCIAL LITERACY EXERCISES

BY UNDERSTANDING AND PRACTICING THESE TYPES OF PROBLEMS, YOU'LL IMPROVE YOUR ABILITY TO QUICKLY AND ACCURATELY SOLVE SIMILAR QUESTIONS IN EXAMS AND REAL-LIFE SITUATIONS.

FREQUENTLY ASKED QUESTIONS

WHAT IS THE TOTAL AMOUNT GARETH PAID FOR THE ORANGES?

GARETH PAID 52P IN CHANGE AFTER PAYING WITH A 1 COIN, SO HE PAID $1.00 - 0.52 = 48p$.

HOW MUCH DOES ONE ORANGE COST IF GARETH BOUGHT TWO ORANGES FOR 48P?

THE COST OF ONE ORANGE IS 48P DIVIDED BY 2, WHICH IS 24P.

WHAT IS THE TOTAL COST OF TWO ORANGES BASED ON GARETH'S PAYMENT?

THE TOTAL COST OF TWO ORANGES IS 48P.

IF EACH ORANGE COSTS 24P, HOW MUCH WOULD THREE ORANGES COST?

THREE ORANGES WOULD COST $3 \times 24p = 72p$.

WHAT CHANGE DOES GARETH RECEIVE AFTER BUYING TWO ORANGES WITH A 1 COIN?

HE RECEIVES 52P IN CHANGE.

HOW CAN YOU VERIFY THE COST OF ONE ORANGE FROM GARETH'S TRANSACTION?

BY SUBTRACTING THE CHANGE FROM THE AMOUNT PAID ($1.00 - 0.52 = 48p$) AND THEN DIVIDING BY TWO, GIVING 24P PER ORANGE.

WHAT IS THE SIGNIFICANCE OF THE 1 COIN IN THIS PROBLEM?

IT REPRESENTS THE AMOUNT GARETH USED TO PAY FOR THE ORANGES, WHICH WAS EXACTLY 1 POUND (100P).

IF GARETH HAD PAID WITH A DIFFERENT COIN, HOW WOULD THAT AFFECT THE CALCULATION?

THE CALCULATION DEPENDS ON THE TOTAL PAID AND CHANGE RECEIVED; IF THE COIN'S VALUE CHANGED, YOU'D ADJUST THE TOTAL PAID ACCORDINGLY TO FIND THE COST PER ORANGE.

WHAT MATHEMATICAL OPERATION IS USED TO FIND THE COST OF ONE ORANGE IN THIS PROBLEM?

DIVISION IS USED TO DIVIDE THE TOTAL COST OF TWO ORANGES BY 2 TO FIND THE COST OF ONE ORANGE.

ADDITIONAL RESOURCES

GARETH BUYS TWO ORANGES. HE PAYS WITH A 1 COIN AND GETS 52P CHANGE. WORK OUT THE COST OF ONE ORANGE.

INTRODUCTION: UNPACKING THE PUZZLE

IN EVERYDAY SHOPPING SCENARIOS, TRANSACTIONS OFTEN SEEM STRAIGHTFORWARD—HAND OVER MONEY, RECEIVE YOUR GOODS, AND GO ON YOUR WAY. HOWEVER, BEHIND THE SIMPLICITY OF A PURCHASE, THERE ARE OFTEN MATHEMATICAL PUZZLES THAT CHALLENGE OUR UNDERSTANDING OF BASIC ARITHMETIC AND CURRENCY. ONE SUCH INTRIGUING PROBLEM INVOLVES GARETH, WHO BUYS TWO ORANGES, PAYS WITH A SINGLE 1-POUND COIN, AND RECEIVES 52 PENCE AS CHANGE. THE QUESTION POSED IS: WHAT IS THE COST OF ONE ORANGE?

WHILE AT FIRST GLANCE THIS MAY APPEAR TO BE A SIMPLE ARITHMETIC PROBLEM, IT ACTUALLY ENCOMPASSES FUNDAMENTAL CONCEPTS OF SUBTRACTION, DIVISION, AND UNDERSTANDING OF CURRENCY UNITS. THIS ARTICLE AIMS TO DELVE DEEPLY INTO THE PROBLEM, EXPLORING THE STEPS NECESSARY TO DERIVE THE ANSWER, THE MATHEMATICAL PRINCIPLES INVOLVED, AND THE BROADER CONTEXT OF SUCH PUZZLES IN EVERYDAY LIFE.

UNDERSTANDING THE PROBLEM: BREAKING DOWN THE DETAILS

BEFORE JUMPING INTO CALCULATIONS, IT'S CRITICAL TO UNDERSTAND THE KEY DETAILS PROVIDED:

- GARETH PAYS WITH A 1 COIN: THIS IMPLIES THE PAYMENT IS MADE WITH A 1-POUND COIN, WHICH IS EQUIVALENT TO 100 PENCE.
- HE RECEIVES 52P AS CHANGE: THE AMOUNT RETURNED TO HIM AFTER THE PURCHASE IS 52 PENCE.
- HE BUYS TWO ORANGES: THE TOTAL COST FOR BOTH ORANGES COMBINED.

THE CORE GOAL IS TO FIND THE COST OF ONE ORANGE.

STEP 1: CONVERTING THE CURRENCY UNITS

SINCE THE PROBLEM INVOLVES POUNDS AND PENCE, IT'S OFTEN EASIER TO WORK ENTIRELY IN PENCE TO AVOID CONFUSION.

- 1 POUND (£1) = 100 PENCE (P)
- CHANGE RECEIVED = 52P

TOTAL AMOUNT GARETH PAID IN PENCE: 100P

TOTAL COST OF TWO ORANGES IN PENCE: TO BE DETERMINED

STEP 2: CALCULATING THE TOTAL COST OF TWO ORANGES

USING BASIC SUBTRACTION:

TOTAL PAYMENT - CHANGE = TOTAL COST OF ORANGES

PLUGGING IN THE KNOWN VALUES:

- 100P (PAID) - 52P (CHANGE) = 48P

THIS MEANS:

TOTAL COST FOR TWO ORANGES = 48p

STEP 3: FINDING THE COST OF ONE ORANGE

SINCE THE TOTAL COST FOR TWO ORANGES IS 48p, TO FIND THE COST OF A SINGLE ORANGE:

COST OF ONE ORANGE = TOTAL COST OF TWO ORANGES $\div$ 2

CALCULATING:

$$- 48p \div 2 = 24p$$

THUS, EACH ORANGE COSTS 24p.

THE MATHEMATICAL PRINCIPLES AT PLAY

THIS PROBLEM EXEMPLIFIES SEVERAL FUNDAMENTAL MATHEMATICAL CONCEPTS RELEVANT NOT ONLY IN ACADEMIC CONTEXTS BUT ALSO IN EVERYDAY TRANSACTIONS:

1. CURRENCY CONVERSION AND UNITS

UNDERSTANDING THE RELATIONSHIP BETWEEN POUNDS AND PENCE IS CRUCIAL. WORKING SOLELY IN PENCE SIMPLIFIES CALCULATIONS AND MINIMIZES ERRORS.

2. BASIC ARITHMETIC OPERATIONS

SUBTRACTION IS USED TO DETERMINE THE TOTAL COST FROM TOTAL PAYMENT AND CHANGE, WHILE DIVISION HELPS FIND THE COST PER ITEM.

3. LOGICAL REASONING

INTERPRETING THE PROBLEM REQUIRES A LOGICAL SEQUENCE: IDENTIFY TOTAL PAYMENT, SUBTRACT CHANGE TO GET TOTAL COST, THEN DIVIDE TO FIND INDIVIDUAL ITEM COST.

BROADER CONTEXT: REAL-WORLD APPLICATIONS OF SUCH PROBLEMS

WHILE THIS SPECIFIC PROBLEM IS STRAIGHTFORWARD, SIMILAR PUZZLES AND CALCULATIONS APPEAR FREQUENTLY IN EVERYDAY LIFE:

- GROCERY SHOPPING: CALCULATING UNIT PRICES FOR BULK ITEMS.
- BUDGETING: DETERMINING HOW MUCH TO SPEND PER ITEM WITHIN A SET BUDGET.
- CURRENCY EXCHANGE: CONVERTING BETWEEN DIFFERENT DENOMINATIONS AND UNDERSTANDING CHANGE.

MASTERING THESE BASIC CALCULATIONS ENHANCES FINANCIAL LITERACY AND DECISION-MAKING SKILLS.

VARIATIONS AND RELATED PROBLEMS

TO DEEPEN UNDERSTANDING, CONSIDER VARIATIONS OF THIS PROBLEM:

- IF GARETH HAD PAID WITH A DIFFERENT AMOUNT, SAY A 2 COIN, AND RECEIVED A DIFFERENT CHANGE, HOW WOULD THE COST CHANGE?
- WHAT IF THE ORANGES COST THE SAME, BUT GARETH BOUGHT THREE INSTEAD OF TWO? HOW WOULD THAT AFFECT THE TOTAL AND INDIVIDUAL PRICE?
- SUPPOSE THE SHOPKEEPER ONLY ACCEPTED COINS OF CERTAIN DENOMINATIONS—HOW WOULD THAT INFLUENCE THE

CALCULATION?

EXPLORING THESE VARIATIONS HELPS REINFORCE PROBLEM-SOLVING STRATEGIES AND CURRENCY COMPREHENSION.

COMMON ERRORS AND MISCONCEPTIONS

IN SOLVING PROBLEMS LIKE THIS, CERTAIN PITFALLS ARE COMMON:

- MISINTERPRETING THE CURRENCY UNITS: CONFUSING POUNDS WITH PENCE CAN LEAD TO INCORRECT CALCULATIONS.
- INCORRECT SUBTRACTION OR DIVISION: FORGETTING TO SUBTRACT THE CHANGE BEFORE DIVIDING CAN PRODUCE AN INACCURATE UNIT PRICE.
- ASSUMING THE TOTAL COST IS IN POUNDS WHEN IT'S IN PENCE: ALWAYS CLARIFY THE UNITS BEFORE CALCULATIONS.

BEING AWARE OF THESE POTENTIAL ERRORS ENSURES MORE ACCURATE AND RELIABLE PROBLEM-SOLVING.

CONCLUSION: THE FINAL ANSWER

TO SUMMARIZE THE STEPS:

1. TOTAL PAID = 100P
2. CHANGE RECEIVED = 52P
3. TOTAL COST OF TWO ORANGES = $100P - 52P = 48P$
4. COST OF ONE ORANGE = $48P \div 2 = 24P$

THEREFORE, EACH ORANGE COSTS 24 PENCE.

THIS PROBLEM EXEMPLIFIES HOW BASIC ARITHMETIC, CURRENCY UNDERSTANDING, AND LOGICAL REASONING COMBINE TO SOLVE EVERYDAY PUZZLES. WHETHER IN A CLASSROOM, A SHOP, OR DAILY BUDGETING, THESE SKILLS ARE ESSENTIAL TOOLS FOR INTERPRETING AND MANAGING FINANCIAL TRANSACTIONS EFFECTIVELY.

FINAL THOUGHTS: THE IMPORTANCE OF MATHEMATICAL LITERACY

PROBLEMS LIKE GARETH'S ARE MORE THAN MERE EXERCISES—THEY SERVE AS FOUNDATIONAL BUILDING BLOCKS FOR FINANCIAL LITERACY AND CRITICAL THINKING. BY MASTERING SIMPLE CALCULATIONS INVOLVING CURRENCY AND BASIC OPERATIONS, INDIVIDUALS CAN MAKE INFORMED DECISIONS, COMPARE PRICES, AND HANDLE MONETARY EXCHANGES WITH CONFIDENCE.

AS YOU ENCOUNTER SIMILAR PUZZLES OR REAL-WORLD FINANCIAL SCENARIOS, REMEMBER THE CORE PRINCIPLES DEMONSTRATED HERE: CONVERT UNITS CONSISTENTLY, APPLY PROPER ARITHMETIC, AND THINK LOGICALLY THROUGH EACH STEP. THESE SKILLS NOT ONLY SOLVE PROBLEMS BUT ALSO EMPOWER SMARTER FINANCIAL CHOICES IN EVERYDAY LIFE.

Gareth Buys Two Oranges He Pays With A 1 Coin And Gets 52p Change Work Out The Cost Of One Orange

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