

# THE FRACTION BAKERY

*The Case of the Skinny Slice*



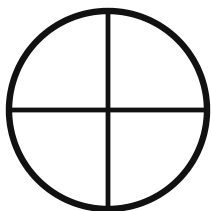
**Head Baker: Penelope**

**Shortchange Sam** has been sneaking into bakeries and handing out unfair slices. Learn to cut fairly, name every piece — and catch him.

# Fair Shares

*The first rule of the bakery.*

## THE RULE

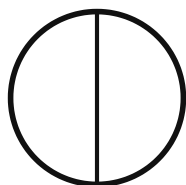


At the Fraction Bakery, every treat is shared in **equal parts** — parts that are exactly the same size. That's the whole first rule:

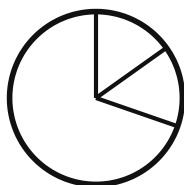
**No equal parts → no fair share → no fraction!**

This pie is cut into 4 equal parts. Every customer smiles.

- 1** Quality inspection! Sam has been “helping” in the kitchen. Circle **FAIR** if the parts are equal, **UNFAIR** if they are not.



a. FAIR • UNFAIR



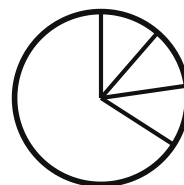
b. FAIR • UNFAIR



c. FAIR • UNFAIR

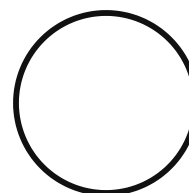


d. FAIR • UNFAIR



e. FAIR • UNFAIR

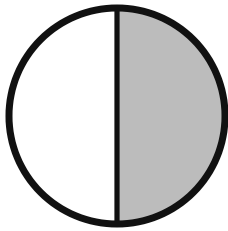
- 2** Your turn with the knife: draw a straight line that cuts the bar into **2 equal parts** — then do the same to the pie (straight through the middle!).



# The Half

One of two equal pieces gets a famous name.

## LEARN

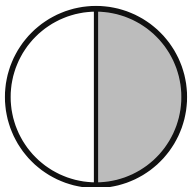


Cut a treat into **2 equal parts** and take one — you have **one half**, written  $\frac{1}{2}$ .

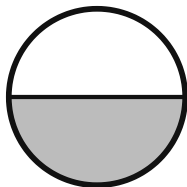
The fraction is a tiny report: the **bottom number** counts **all the equal parts** (2), and the **top number** counts **your parts** (1).

Grown-up words, if you want them: the top is the *numerator*, the bottom is the *denominator*. Bakers just say top and bottom.

- 1 Which of these show one half shaded? Circle every letter that does — but watch out, Sam slipped in some fakes! (The cut direction doesn't matter. Equal is what matters.)



a.



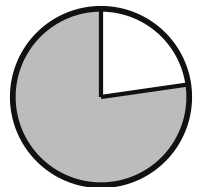
b.



c.

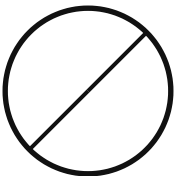


d.



e.

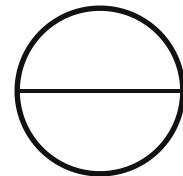
- 2 Shade exactly one half of each treat, then write the fraction  $\frac{1}{2}$  in the boxes — 1 on top, 2 on the bottom.



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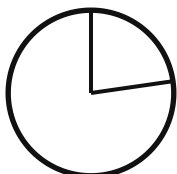


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- 3 A customer cut his cookie like this and says the big piece is “half.”



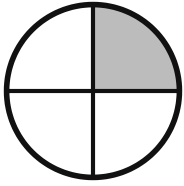
Is he right? **YES / NO** (circle one)

How do you know? \_\_\_\_\_

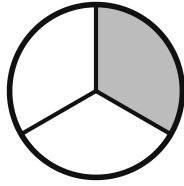
# Quarters & Thirds

More cuts, smaller pieces, new names.

## LEARN



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

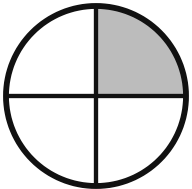


$$\frac{1}{3}$$

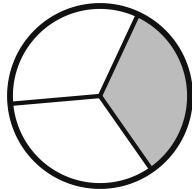
**4 equal parts** → each part is **one quarter** (or one *fourth*). **3 equal parts** → each is **one third**.

Baker's secret: you already know quarters! A quarter past the hour is a quarter of the clock's face, and the quarter coin is a quarter of a dollar. Same idea: **one of four equal parts**.

- 1** One part of each treat is shaded. Write the fraction in the boxes (top = shaded parts, bottom = all parts).



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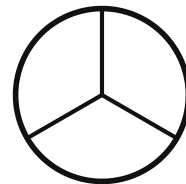
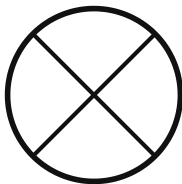


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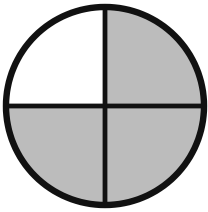
- 2** Shade exactly **one quarter** of the first treat and **one third** of the second.



# Counting Pieces

*Sometimes you get more than one piece.*

## LEARN

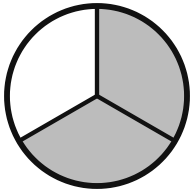


Three friends each took a quarter of this pie. Together they took **three quarters**:  $\frac{3}{4}$ .

Count in two steps, like a baker filling an order: **Step 1**: how many equal parts in all? (bottom number) **Step 2**: how many are shaded? (top number)

New cut, new name: **6 equal parts** are called **sixths**.

- 1 Write the fraction that is shaded.



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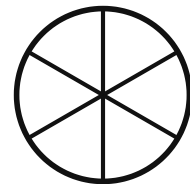
- 2 Now you're the baker: shade each treat to match its order.



shade  $\frac{2}{3}$



shade  $\frac{3}{4}$



shade  $\frac{4}{6}$

- 3 Both directions, detective: on this bar, what fraction IS shaded, and what fraction is NOT shaded?



shaded:

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NOT shaded:

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# Fraction of a Set

Fractions work on groups of things too.

## LEARN



Six cupcakes, and half of them are chocolate. How many is **half of 6**?

Baker's method: the bottom number says how many **equal groups** to make. For  $\frac{1}{2}$ , deal the 6 cupcakes into **2 equal groups** — 3 and 3. So half of 6 is 3.

- 1 Circle exactly one half of the cupcakes. How many did you circle? \_\_\_\_\_



- 2 Deal each set into equal groups and solve:

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

of 6 =

\_\_\_\_\_



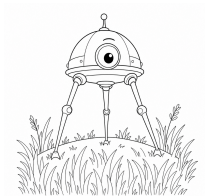
$$\frac{1}{4}$$

of 8 =

\_\_\_\_\_



- 3 The Martian scout ordered 8 muffins and wants **half** of them with sprinkles. Deal the muffins into 2 equal groups! How many get sprinkles? \_\_\_\_\_

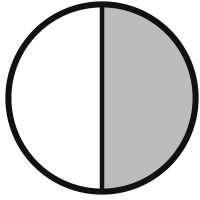


- 4 The cat says: "Half of 6 is 1, because the top number is 1!" Set him straight — what is  $\frac{1}{2}$  of 6 really, and why? \_\_\_\_\_

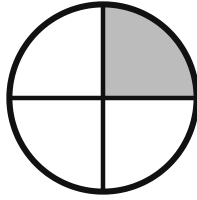
# The Skinny-Slice Trap

*Why a bigger bottom number means a smaller piece.*

## WATCH OUT



$$\frac{1}{2}$$



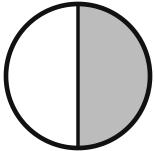
$$\frac{1}{4}$$

**Shortchange Sam is back!** He offers: “Trade your  $\frac{1}{2}$  of pie for my  $\frac{1}{4}$  — four is more than two!”

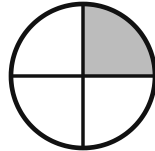
**Look at the pies.** More cuts make **skinnier slices**. When you take **one piece of the same treat**, a bigger bottom number means a **smaller** piece. (Careful: more pieces together is a different story — you’ll see on page 9!)

- 1 Each lettered pair shows two same-size pies. Circle the pie with **more shaded**.

a.



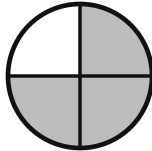
or



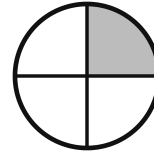
$$\frac{1}{2}$$

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

b.



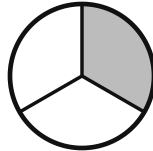
or



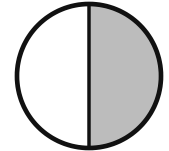
$$\frac{3}{4}$$

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

c.



or



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

$$\frac{1}{2}$$

- 2 No pictures this time — just think about slice sizes! Sam offers a trade. Circle **KEEP** or **TRADE** for each deal.

a. your  $\frac{1}{2}$  for Sam’s  $\frac{1}{3}$  → **KEEP • TRADE**

b. your  $\frac{1}{4}$  for Sam’s  $\frac{3}{4}$  → **KEEP • TRADE**

c. your  $\frac{1}{3}$  for Sam’s  $\frac{1}{4}$  → **KEEP • TRADE**

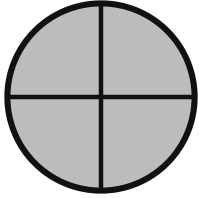
- 3 Penelope gets  $\frac{1}{2}$  of a pizza. The cat gets  $\frac{1}{4}$  of the same pizza and says he won. Who really got more pizza? \_\_\_\_\_



# Making the Whole

*Put the pieces back together.*

## LEARN



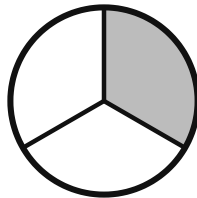
Shade **all four** quarters and the whole pie is shaded:  $\frac{4}{4}$  means **1 whole**.

When the top number and bottom number match, you have every piece — the whole treat. All the pieces together always rebuild the whole!

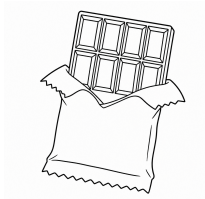
1 Baker's inventory — a whole pie is: \_\_\_\_\_ halves · \_\_\_\_\_ quarters · \_\_\_\_\_ thirds

2 This pie has  $\frac{1}{3}$  shaded. Shade **the rest**. What fraction is shaded now?

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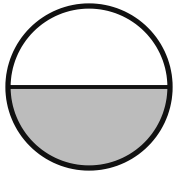
3 The chocolate bar broke into quarters! How many quarter-pieces do you need to rebuild the whole bar? \_\_\_\_\_



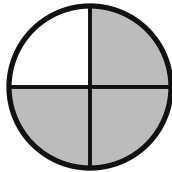
# The Bakery Rush

Four orders, one baker — and Sam slipped a fake ticket into the pile.

- 1 Match each treat to its order ticket — draw a line from the dot to the ticket. **Careful:** one ticket is Sam's fake — it matches no treat at all!



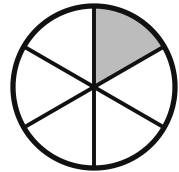
A O



B O



C O



D O

ORDER 1

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

ORDER 2

$$\frac{1}{2}$$

ORDER 3

$$\frac{1}{6}$$

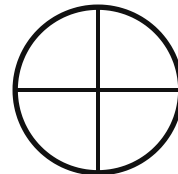
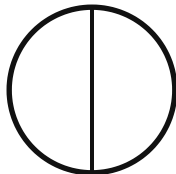
ORDER 4

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

ORDER 5

$$\frac{2}{3}$$

- 2 The cat paid for  $\frac{1}{2}$  a pizza but got “only” 2 quarter-slices ( $\frac{2}{4}$ ) and wants a refund. Shade the cat's share on each pizza: **one half** of the left one, **2 of the 4 quarters** of the right one. Did he really get less? YES / NO (circle one)



- 3 Brain-stretcher: the bakery box holds 8 cupcakes. The Martian buys **one quarter** of the box. Draw the 8 cupcakes, deal them into 4 equal groups, and answer: \_\_\_\_\_



**CASE CLOSED:** a baker who checks for equal parts can't be fooled by fakes or skinny slices. Sam has fled the bakery. Well done, Head Baker Penelope!