

Fractions: Adding & Subtracting

Starter 10 (1 of 3)

1. Fully **uprość** **simplify**: $\frac{12}{16}$
2. Which is larger: $\frac{3}{7}$ or $\frac{3}{9}$?
3. Convert $\frac{11}{4}$ to a **liczbę mieszaną** **mixed number** .

Starter 10 (1 of 3)

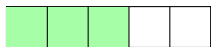
1. Fully **simplify**: $\frac{12}{16} = \frac{3}{4}$ **uprość**
2. Which is larger: $\frac{3}{7}$ or $\frac{3}{9}$? $\frac{3}{7}$
3. Convert $\frac{11}{4}$ to a **mixed number** . $= 2\frac{3}{4}$ **liczbę mieszaną**

Starter 10 (2 of 3)



4. Complete the addition represented by the bars to the left:

$$\frac{?}{5} + \frac{?}{5} = \frac{3}{?}$$

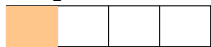


5. Calculate:

$$\frac{1}{7} + \frac{3}{7} \qquad \frac{5}{9} + \frac{2}{9}$$



$\frac{1}{2}$



$\frac{1}{4}$

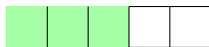
6. To add $\frac{1}{2} + \frac{1}{4}$, what must you do first? Can you draw a picture to demonstrate?

Starter 10 (2 of 3)



4. Complete the addition represented by the bars to the left:

$$\frac{2}{5} + \frac{1}{5} = \frac{3}{5}$$



5. Calculate:

$$\frac{1}{7} + \frac{3}{7} \quad \frac{5}{9} + \frac{2}{9}$$

$$\frac{1}{2} = \frac{2}{4}$$



$$= \frac{4}{7}, \frac{7}{9}$$

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



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

6. To add $\frac{1}{2} + \frac{1}{4}$, what must you do first? Can you



$$\frac{2}{4} + \frac{1}{4} = \frac{3}{4}$$

draw a picture to demonstrate? Find a
wspólny mianownik

common denominator : $\frac{1}{2} = \frac{2}{4}$, so $\frac{2}{4} + \frac{1}{4} = \frac{3}{4}$.

Starter 10 (3 of 3)

7. Calculate: $\frac{1}{2} + \frac{1}{4}$

8. Calculate: $\frac{1}{3} + \frac{1}{4}$

Starter 10 (3 of 3)

7. Calculate: $\frac{1}{2} + \frac{1}{4} = \frac{3}{4}$

8. Calculate: $\frac{1}{3} + \frac{1}{4} = \frac{7}{12}$

Starter 11 (1 of 3)

ułamki równoważne

1. Write 3 fractions equivalent to $\frac{2}{3}$.

2. Order smallest to largest: $\frac{1}{8}$, $\frac{1}{2}$, $\frac{1}{12}$

ułamek niewłaściwy

3. Convert $2\frac{3}{7}$ to an improper fraction.

Starter 11 (1 of 3)

ułamki równoważne

1. Write 3 fractions equivalent to $\frac{2}{3}$. $\frac{4}{6}, \frac{6}{9}, \frac{8}{12}$

2. Order smallest to largest: $\frac{1}{8}, \frac{1}{2}, \frac{1}{12}$ $\frac{1}{12} < \frac{1}{8} < \frac{1}{2}$

ułamek niewłaściwy

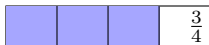
3. Convert $2\frac{3}{7}$ to an improper fraction. $= \frac{17}{7}$

Starter 11 (2 of 3)



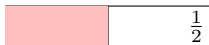
4. Complete the subtraction represented by the bars to the left:

$$\frac{4}{6} - \frac{?}{6} = \frac{?}{6} = \frac{1}{?}$$



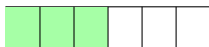
5. Calculate:

$$\frac{7}{10} - \frac{3}{10} \qquad \frac{8}{9} - \frac{5}{9}$$



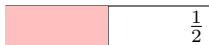
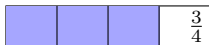
6. Use the bars to work out $\frac{3}{4} - \frac{1}{2}$.

Starter 11 (2 of 3)



4. Complete the subtraction represented by the bars to the left:

$$\frac{4}{6} - \frac{1}{6} = \frac{3}{6} = \frac{1}{2}$$



5. Calculate:

$$\frac{7}{10} - \frac{3}{10} \quad \frac{8}{9} - \frac{5}{9}$$

$$= \frac{2}{5}, \frac{1}{3}$$

6. Use the bars to work out $\frac{3}{4} - \frac{1}{2} = \frac{1}{4}$

Starter 11 (3 of 3)

7. Calculate: $\frac{5}{6} - \frac{1}{4}$

8. Calculate: $\frac{7}{8} - \frac{2}{3}$

9. Order smallest to largest: $\frac{3}{8}, \frac{1}{2}, \frac{5}{12}$

Starter 11 (3 of 3)

7. Calculate: $\frac{5}{6} - \frac{1}{4} = \frac{7}{12}$

8. Calculate: $\frac{7}{8} - \frac{2}{3} = \frac{5}{24}$

9. Order smallest to largest: $\frac{3}{8}, \frac{1}{2}, \frac{5}{12}$ $\frac{3}{8} < \frac{5}{12} < \frac{1}{2}$

Starter 12 (1 of 3)

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

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

3. Uprość
Simplify: $\frac{36}{48}$

Starter 12 (1 of 3)

1. $\frac{2}{5} + \frac{1}{5} = \frac{3}{5}$

2. $\frac{3}{4} - \frac{1}{2} = \frac{1}{4}$

3. Uprość
Simplify: $\frac{36}{48} = \frac{3}{4}$

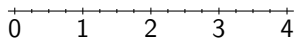
Starter 12 (2 of 3)



+



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4. Fill in the blanks using the diagram:

$$\frac{?}{4} + 1\frac{?}{?} = \frac{?}{4} + \frac{?}{4} = \frac{?}{4} = ?\frac{1}{?}$$

5.

$$2\frac{1}{3} + 1\frac{1}{3}$$

6.

$$3\frac{1}{4} + 1\frac{1}{2}$$

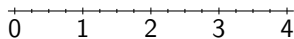
Starter 12 (2 of 3)



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4. Fill in the blanks using the diagram:

$$1\frac{3}{4} + 1\frac{1}{2} = \frac{7}{4} + \frac{6}{4} = \frac{13}{4} = 3\frac{1}{4}$$

5.

$$2\frac{1}{3} + 1\frac{1}{3} = 3\frac{2}{3}$$

6.

$$3\frac{1}{4} + 1\frac{1}{2} = 4\frac{3}{4}$$

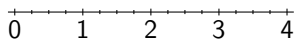
Starter 12 (3 of 3)



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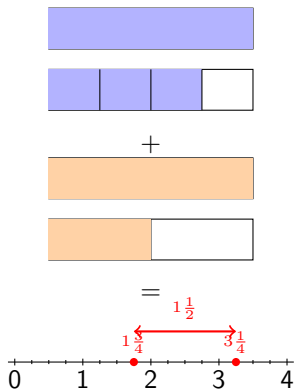


7. Mark $1\frac{3}{4}$ and $3\frac{1}{4}$ on the **number line** .
osi liczbowej
różnica

What is the **difference**? How else could you work this out?

8. Calculate: $2\frac{2}{3} + 1\frac{3}{4}$ 9. Calculate $1\frac{3}{4} - 3\frac{1}{4}$

Starter 12 (3 of 3)



7. Mark $1\frac{3}{4}$ and $3\frac{1}{4}$ on the **number line** .
osi liczbowej
różnica

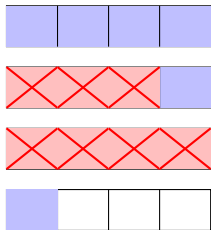
What is the **difference**? How else could you

Różnica
work this out? **Difference** = $\frac{3}{2} = 1\frac{1}{2}$; **work out**

$$\text{as } 3\frac{1}{4} - 1\frac{3}{4} = \frac{13}{4} - \frac{7}{4} = \frac{6}{4} = \frac{3}{2}.$$

8. Calculate: $2\frac{2}{3} + 1\frac{3}{4}$ 9. Calculate $1\frac{3}{4} - 3\frac{1}{4}$
 $= 4\frac{5}{12}$ $= -1\frac{1}{2}$

Starter 13 (1 of 3)



1. Which is greater: $2\frac{1}{3}$ or $2\frac{2}{5}$?

2. Convert $\frac{23}{6}$ to a **liczbę mieszaną** **mixed number**.

3. Consider the diagram on the left, fill in the blanks

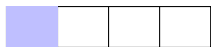
to demonstrate subtraction using

ułamki niewłaściwe

improper fractions :

$$3\frac{1}{4} - 1\frac{3}{4} = \frac{?}{4} - \frac{?}{4} = \frac{?}{4} = \frac{?}{?}$$

Starter 13 (1 of 3)



1. Which is greater: $2\frac{1}{3}$ or $2\frac{2}{5}$? $2\frac{2}{5}$

2. Convert $\frac{23}{6}$ to a **liczbę mieszaną** **mixed number** . $= 3\frac{5}{6}$

3. Consider the diagram on the left, fill in the blanks

to demonstrate subtraction using

ułamki niewłaściwe

improper fractions :

$$3\frac{1}{4} - 1\frac{3}{4} = \frac{13}{4} - \frac{7}{4} = \frac{6}{4} = 1\frac{2}{4}$$

Starter 13 (2 of 3)

4.

$$3\frac{3}{5} - 1\frac{1}{5}$$

5.

$$4\frac{5}{6} - 2\frac{1}{6}$$

6.

$$1\frac{2}{3} + 2\frac{1}{4}$$

Starter 13 (2 of 3)

4.

$$3\frac{3}{5} - 1\frac{1}{5}$$

$$= 2\frac{2}{5}$$

5.

$$4\frac{5}{6} - 2\frac{1}{6}$$

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

6.

$$1\frac{2}{3} + 2\frac{1}{4}$$

$$= 3\frac{11}{12}$$

Starter 13 (3 of 3)

7.

$$4\frac{1}{4} - 1\frac{1}{2}$$

8.

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

9.

$$5\frac{1}{3} - 2\frac{3}{4}$$

Starter 13 (3 of 3)

7.

$$4\frac{1}{4} - 1\frac{1}{2}$$

$$= 2\frac{3}{4}$$

8.

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

$$= 1\frac{7}{12}$$

9.

$$5\frac{1}{3} - 2\frac{3}{4}$$

$$= 2\frac{7}{12}$$

Starter 14 (1 of 3)

ułamek

1

$$\frac{1}{2}$$
 $\frac{1}{2}$ $\frac{1}{3}$ $\frac{1}{3}$
$$\frac{1}{3}$$
$$\frac{1}{6}$$
$$\frac{1}{6}$$
$$\frac{1}{6}$$
$$\frac{1}{6}$$
$$\frac{1}{6}$$
$$\frac{1}{6}$$

1	1	1	1	1	1	1	1	1	1	1
1	2	1	2	1	2	1	2	1	2	1

uprość

1. Fully **simplify**: $\frac{15}{20}$

uprość

2. Fully **simplify**: $\frac{72}{96}$

ułamek

3. Use the **fraction** wall to fill in the blanks:

$$\frac{1}{2} + \frac{?}{6} = 1$$

$$\frac{?}{3} + \frac{?}{6} = 1$$

Starter 14 (1 of 3)

ułamek

Fraction wall

1

$\frac{1}{2}$

$\frac{1}{2}$

$\frac{1}{3}$

$\frac{1}{3}$

$\frac{1}{3}$

$\frac{1}{6}$

$\frac{1}{6}$

$\frac{1}{6}$

$\frac{1}{6}$

$\frac{1}{6}$

$\frac{1}{6}$

1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2

uprość

1. Fully simplify: $\frac{15}{20} = \frac{3}{4}$

uprość

2. Fully simplify: $\frac{72}{96} = \frac{3}{4}$

ułamek

3. Use the fraction wall to fill in the blanks:

$$\frac{1}{2} + \frac{3}{6} = 1$$

$$\frac{1}{3} + \frac{4}{6} = 1$$

Starter 14 (2 of 3)

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

5. $4\frac{1}{5} - 1\frac{3}{4}$

6. Maya says: " $\frac{1}{2} + \frac{1}{3} = \frac{2}{5}$ ". Explain the mistake and find the correct answer.

Starter 14 (2 of 3)

4. $2\frac{3}{4} + 1\frac{2}{3} = 4\frac{5}{12}$

5. $4\frac{1}{5} - 1\frac{3}{4} = 2\frac{9}{20}$

6. Maya says: " $\frac{1}{2} + \frac{1}{3} = \frac{2}{5}$ ". Explain the mistake and find the correct
mianownik
answer. She added the denominators too; use a
wspólny mianownik
common denominator : $\frac{3}{6} + \frac{2}{6} = \frac{5}{6}$.

Starter 14 (3 of 3)

7. Amir eats $\frac{3}{8}$, Beth eats $\frac{1}{4}$, Cal eats $\frac{1}{3}$ of a pizza. What $\frac{\text{ułamek}}{\text{fraction}}$ is left?
8. Fill in the blanks: $3\frac{1}{4} + \underline{\hspace{1cm}} = 5\frac{1}{6}$
9. True or false? $\frac{a}{b} + \frac{a}{c} = \frac{2a}{b+c}$. Can you explain your answer with a $\frac{\text{dowodem}}{\text{proof}}$ $\frac{\text{kontrprzykładem}}{\text{counterexample}}$?

Starter 14 (3 of 3)

ułamek

7. Amir eats $\frac{3}{8}$, Beth eats $\frac{1}{4}$, Cal eats $\frac{1}{3}$ of a pizza. What fraction is left? $\frac{1}{24}$

8. Fill in the blanks: $3\frac{1}{4} + 1\frac{11}{12} = 5\frac{1}{6}$

9. True or false? $\frac{a}{b} + \frac{a}{c} = \frac{2a}{b+c}$. Can you explain your answer with a dowodem kontrprzykładem
proof / counterexample ? False; e.g. $a = b = c = 1$ gives

$2 = 1$. Correct: $\frac{a}{b} + \frac{a}{c} = \frac{a(c+b)}{bc}$.