Name & Surname: _____ Class: _____ Date: _____

RATIOS IN SIMPLEST FORM

Use ratio notation and reduce with confidence.

About 60 minutes Level ★★★☆☆

RATIO IN SIMPLEST FORM

A **ratio** compares two or more amounts in order. It is written with a colon and no units, for example 3:2.

- Write the amounts in the correct **order** with a colon between them.
- Change to the same **units** first, for example 1 m = 100 cm and £1 = 100p.
- Divide all parts by their highest common **factor** to reach simplest form.
- Multiplying or dividing all parts by the same number gives an **equivalent** ratio.

TASK A

/2

Follow the steps to write each ratio in simplest form.

WORKED EXAMPLE

Write the ratio of 12 red counters to 8 blue counters in simplest form.

1. Write in **order** with a colon: 12:8
2. Find the highest common **factor** of 12 and 8: 4
3. Divide both parts by 4 to get the **equivalent** ratio 3:2

Answer: 3:2

YOUR TURN

Write the ratio of 20 yellow beads to 12 green beads in simplest form.

Answer: _____

WORKED EXAMPLE

Write the ratio of 40p to £2 in simplest form.

1. Convert to the same **units**: £2 = 200p
2. Write the **ratio**: 40:200
3. Divide both parts by 40 to get **simplest** form 1:5

Answer: 1:5

YOUR TURN

Write the ratio of 50 g to 1 kg in simplest form.

Answer: _____

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PRACTISE SIMPLE RATIOS

Write ratios and reduce them to simplest form.

KEY WORDS

ratio: compares two amounts in order

order: which amount comes first

equivalent: different ratios showing the same comparison

colon: symbol used to write a ratio

simplest form: ratio divided to smallest whole numbers

units: amounts must match before writing a ratio

TASK B

/12

Practise writing the ratio and reducing to simplest form.

WARM UP

1. There are 4 red beads and 7 blue beads. Write the **ratio** of red to blue.

   Answer: _____

2. There are 9 pencils and 3 pens. Write the **ratio** of pencils to pens.

   Answer: _____

3. Reduce the **ratio** 9:3 to simplest form.

   Answer: _____

4. Reduce the **ratio** 10:20 to simplest form.

   Answer: _____

PRACTISE

5. Reduce the **ratio** 12:18 to simplest form.

   Answer: _____

6. Reduce the **ratio** 40:28 to simplest form.

   Answer: _____

7. Reduce the **ratio** 25:15 to simplest form.

   Answer: _____

8. Reduce the **ratio** 6:9:12 to simplest form.

   Answer: _____

PROBLEM SOLVING

9. There are 15 girls and 12 boys in a class. Write the **ratio** of girls to boys in simplest form.

   Answer: _____

10. A squash mixes 100 ml orange with 400 ml water. Write the **ratio** of orange to water in simplest form.

    Answer: _____

11. Write the **ratio** of 30 cm to 1 m in simplest form.

    Answer: _____

12. Explain why 8:12 and 2:3 are **equivalent** ratios. Explain how you know.

    Answer: _____

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RATIOS WITH UNITS

Convert to the same units before simplifying.

TASK C

/12

Practise ratios that need the same units first.

WARM UP

1 1 m = ? cm. Give your answer in **cm**.

Answer: _____

2 £1 = ? pence. Give your answer in **p**.

Answer: _____

3 1 hour = ? minutes. Give your answer in **minutes**.

Answer: _____

4 1 kg = ? grams. Give your answer in **g**.

Answer: _____

PRACTISE

5 Write the **ratio** of 15p to 60p in simplest form.

Answer: _____

6 Write the **ratio** of 20 cm to 1 m in simplest form.

Answer: _____

7 Write the **ratio** of 10 minutes to 1 hour in simplest form.

Answer: _____

8 Write the **ratio** of 200 g to 1 kg in simplest form.

Answer: _____

PROBLEM SOLVING

9 A student has 75p and her partner has £1.20. Write the **ratio** of the student's money to her partner's money in simplest form.

Answer: _____

10 A squash uses 50 ml orange and 300 ml water. Write the **ratio** of orange to water in simplest form.

Answer: _____

11 There are 6 squares and 10 circles. Write the **ratio** of circles to squares in simplest form.

Answer: _____

12 Explain why you must change £3 to 300p before simplifying 15p to £3. Give the correct **ratio**.

Answer: _____

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MATCH AND REMEMBER

Match each ratio word to its meaning.

TASK D

Cut out the cards and match each ratio word to its meaning.

Cut out the cards.

simplest form	divide both parts by their highest common factor	**ratio**	**order**
same units	convert to cm to cm or pence to pence before writing a ratio	different comparisons that show the same relationship, like 2:3 and 4:6	⚖️ **equivalent ratios**
the symbol used to write a ratio	which amount comes first in the ratio	compares two amounts with a colon, like 3:2	● ● **colon :**

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BARS AND BLUNDERS

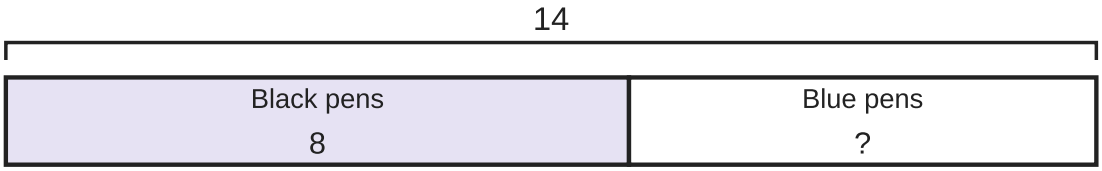
Find missing numbers and spot ratio mistakes.

TASK E

/4

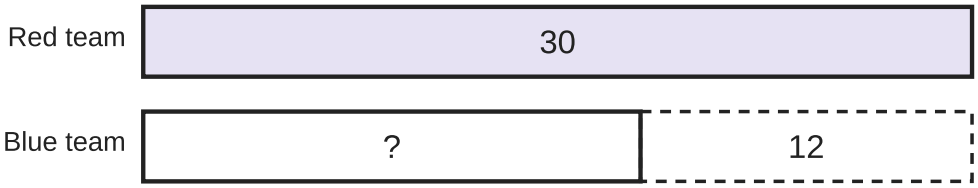
Use the bar model to find the missing number, then write the ratio.

1. A pencil case holds 14 pens in total. 8 pens are black and the rest are blue. How many blue **pens** are there?



Answer: _____ **pens**

2. The red team scored 30 points. The blue team scored 12 fewer **points**. How many points did the blue team score?



Answer: _____ **points**

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RATIOS IN SIMPLEST FORM

TASK F

/3

Spot the mistake in each statement and correct it.



Student A

15p to £3 is 15:3, which simplifies to **5:1**.

What mistake did Student A make? Write the correct fact.



Student B

For 4 cats to 6 dogs the **ratio** is 6:4, which is 3:2.

What mistake did Student B make? Write the correct fact.



Student C

12:18 simplifies to 6:9, so 6:9 is the **simplest** form.

What mistake did Student C make? Write the correct fact.

HOW DID I DO?

Circle a face for each line.

I can write a ratio in the correct order using a colon.

I can change to the same units before writing a ratio.

I can reduce a ratio to its simplest form.

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Answer sheet: Ratios in Simplest Form

Task A

1. 5:3
2. 1:20

Task B

1. 4:7
2. 9:3
3. 3:1
4. 1:2
5. 2:3
6. 10:7
7. 5:3
8. 2:3:4
9. 5:4
10. 1:4
11. 3:10
12. Both parts of 8:12 divided by 4 give 2:3, so the comparison stays the same.

Task C

1. 100
2. 100
3. 60
4. 1000
5. 1:4
6. 1:5
7. 1:6
8. 1:5
9. 5:8
10. 1:6
11. 5:3
12. Both parts must use the same units, so 15p to £3 is 15:300 = 1:20, not 5:1.

Task D

ratio = compares two amounts with a colon, like 3:2
simplest form = divide both parts by their highest common factor
equivalent ratios = different comparisons that show the same relationship, like 2:3 and 4:6
order = which amount comes first in the ratio
colon : = the symbol used to write a ratio
same units = convert to cm to cm or pence to pence before writing a ratio

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Task E

1. 6 pens
2. 18 points

Task F

1. Student A: The units are different. Convert £3 to 300p first: 15:300 = 1:20.
2. Student B: The order is wrong. Cats to dogs is 4:6, which simplifies to 2:3.
3. Student C: 6 and 9 share a factor of 3. Divide again: 6:9 = 2:3, so simplest form is 2:3.

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