Reasoning and Problem Solving
Step 4: Compare and Order Numerators

National Curriculum Objectives:

Mathematics Year 6: (6F2) Use common factors to simplify fractions; use common multiples to express fractions in the same denomination
Mathematics Year 6: (6F3) Compare and order fractions, including fractions > 1

Differentiation:

Questions 1, 4 and 7 (Problem Solving)
Developing Compare two fractions (up to tenths) where the written fraction is supported by a pictorial representation in every question.
Expected Compare three fractions (including mixed numbers) where some numerators are direct multiples of the same number.
Greater Depth Compare three fractions (including mixed numbers and improper fractions) where numerators are indirect multiples of the same number.

Questions 2, 5 and 8 (Reasoning)
Developing Explain which statement is correct by comparing two fractions (up to tenths) where the written fraction is supported by a pictorial representation in every question.
Expected Explain which statement is correct by comparing two fractions (including mixed numbers) where some numerators are direct multiples of the same number.
Greater Depth Explain which statement is correct by comparing two fractions (including mixed numbers and improper fractions) where numerators are indirect multiples of the same number.

Questions 3, 6 and 9 (Reasoning)
Developing Find and correct the mistake in a sequence when ordering a set of fractions (up to tenths) where the written fraction is supported by a pictorial representation in every question.
Expected Find and correct the mistake in a sequence when ordering a set of fractions (including mixed numbers) where some numerators are direct multiples of the same number.
Greater Depth Find and correct the mistake in a sequence when ordering a set of fractions (including mixed numbers and improper fractions) where numerators are indirect multiples of the same number.

More Year 6 Fractions resources.

Did you like this resource? Don't forget to review it on our website.

classroomsecrets.co.uk

Compare and Order Numerators

Compare and Order Numerators

1a. Max measures two ants.

Ant A is $\dfrac{3}{8}$ cm long.

Ant B is $\dfrac{6}{10}$ cm long.

Which ant is the shortest?

PS

1b. Two children measure their teddies.

Sam's teddy is $\dfrac{4}{5}$ m tall.

Kim's teddy is $\dfrac{2}{3}$ m tall.
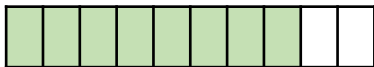
Who has the tallest teddy?

PS

2a. Jess and Tyler are eating pizza.

Jess ate $\dfrac{4}{7}$ of her pizza.

Tyler ate $\dfrac{8}{10}$ of his pizza.

Who ate the most?
Explain your reasoning.

R

2b. Sadia and Luca are walking.

Sadia walked $\dfrac{6}{10}$ of a mile.

Luca walked $\dfrac{3}{7}$ of a mile.

Who walked the furthest?
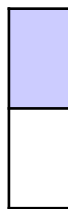Explain your reasoning.

R

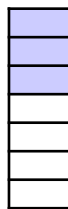**3a.** Sarah ordered a set of fractions from smallest to largest.

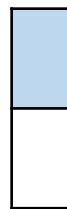$$\dfrac{6}{8} \qquad \dfrac{1}{2} \qquad \dfrac{3}{7}$$

Explain her mistake and write the fractions in the correct order using their common numerator.
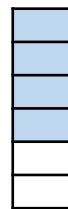
R

3b. James ordered a set of fractions from largest to smallest.

$$\dfrac{1}{2} \qquad \dfrac{4}{6} \qquad \dfrac{8}{10}$$

Explain his mistake and write the fractions in the correct order using their common numerator.
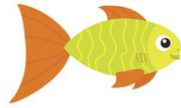
R

classroomsecrets.co.uk

Reasoning and Problem Solving – Compare and Order Numerators – Year 6 Developing

4a. Billy has caught three fish.

Fish A is $1\frac{28}{49}$ m long.

Fish B is $1\frac{4}{9}$ m long.

Fish C is $1\frac{16}{32}$ m long.

Which fish is the shortest?

E | PS

4b. Three children measure their plants.

Aida's plant is $1\frac{27}{36}$ m tall.

Ken's plant is $1\frac{9}{18}$ m tall.

Ralph's plant is $1\frac{3}{7}$ m tall.

Who has the tallest plant?

E | PS

5a. Katy and Miles are eating cakes.

Katy says,

I ate $2\frac{49}{56}$ cakes so I ate the most.

Miles says,

I ate $2\frac{7}{9}$ cakes so I ate the most.

Who is correct? Explain your reasoning.

E | R

5b. Anna and Mason are running.

Anna says,

I ran $5\frac{8}{10}$ miles so I ran the furthest.

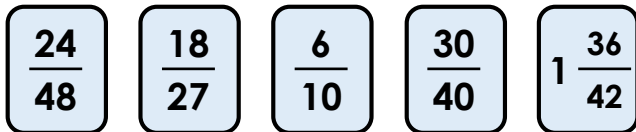Mason says,

I ran $5\frac{32}{36}$ miles so I ran the furthest.

Who is correct? Explain your reasoning.

E | R

6a. Hannah ordered a set of fractions from smallest to largest.

$\frac{24}{48}$ $\frac{18}{27}$ $\frac{6}{10}$ $\frac{30}{40}$ $1\frac{36}{42}$

Explain her mistake and write the fractions in the correct order using their common numerator.

E | R

6b. Adeel ordered a set of fractions from largest to smallest.

$1\frac{20}{24}$ $\frac{5}{7}$ $\frac{15}{30}$ $\frac{45}{81}$ $\frac{10}{24}$

Explain his mistake and write the fractions in the correct order using their common numerator.

E | R

---

classroomsecrets.co.uk

Reasoning and Problem Solving – Compare and Order Numerators – Year 6 Expected

Compare and Order Numerators

7a. Anna has three pet snakes.

Marvin is $5\frac{16}{28}$ metres long.

Sidney is $\frac{58}{10}$ metres long.

Winnie is $5\frac{36}{90}$ metres long.

Which snake is the shortest?

PS

7b. Stephan measures three trees.

Tree A is $3\frac{15}{55}$ metres tall.

Tree B is $\frac{36}{10}$ metres tall.

Tree C is $3\frac{21}{49}$ metres tall.

Which tree is the tallest?

PS

8a. Leah and Tom are eating cookies.

Leah says,

I ate $2\frac{54}{63}$ cookies so I ate the most.

Tom says,

I ate $\frac{60}{24}$ cookies so I ate the most.

Who is correct? Explain your reasoning.

R

8b. Nina and Brendan are swimming.

Nina says,

I swam $4\frac{35}{49}$ laps so I swam the furthest.

Brendan says,

I swam $\frac{58}{12}$ laps so I swam the furthest.

Who is correct? Explain your reasoning.

R

9a. Maisie ordered a set of fractions from smallest to largest.

$$\frac{56}{96} \quad \frac{42}{54} \quad 1\frac{49}{70} \quad 1\frac{35}{55} \quad \frac{46}{16}$$
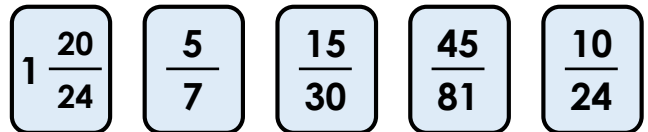
Explain her mistake and write the fractions in the correct order using their common numerator.

R

9b. Josh ordered a set of fractions from largest to smallest.

$$1\frac{36}{40} \quad \frac{63}{70} \quad \frac{42}{24} \quad \frac{27}{33} \quad \frac{72}{96}$$

Explain his mistake and write the fractions in the correct order using their common numerator.

R

classroomsecrets.co.uk

Reasoning and Problem Solving – Compare and Order Numerators – Year 6 Greater Depth

Reasoning and Problem Solving
Compare and Order Numerators

Reasoning and Problem Solving
Compare and Order Numerators

Developing

1a. Ant A

2a. Tyler ate the most because he ate $\frac{4}{5}$ of his pizza and Jess ate $\frac{4}{7}$

3a. She has ordered them from largest to smallest. The correct order is $\frac{3}{7}, \frac{3}{6}, \frac{3}{4}$

Developing

1b. Sam

2b. Sadia walked furthest because she walked $\frac{3}{5}$ of a mile and Luca walked $\frac{3}{7}$

3b. He has ordered them from smallest to largest. The correct order is $\frac{4}{5}, \frac{4}{6}, \frac{4}{8}$

Expected

4a. Fish B

5a. Katy is correct because she ate $2\frac{7}{8}$ cakes and Miles ate $2\frac{7}{9}$

6a. She has put the fractions $\frac{18}{27}$ and $\frac{6}{10}$ in the wrong order. The correct order is:

$\frac{6}{12}, \frac{6}{10}, \frac{6}{9}, \frac{6}{8}, 1\frac{6}{7}$

Expected

4b. Aida

5b. Mason is correct because he ran $5\frac{8}{9}$ miles and Anna ran $5\frac{8}{10}$

6b. He has put the fractions $\frac{15}{30}$ and $\frac{45}{81}$ in the wrong order. The correct order is:

$1\frac{5}{6}, \frac{5}{7}, \frac{5}{9}, \frac{5}{10}, \frac{5}{12}$

Greater Depth

7a. Winnie

8a. Leah is correct because she ate $2\frac{6}{7}$ cookies and Tom ate $2\frac{6}{12}$

9a. She has put the fractions $1\frac{49}{70}$ and $1\frac{35}{55}$ in the wrong order. The correct order is:

$\frac{7}{12}, \frac{7}{9}, 1\frac{7}{11}, 1\frac{7}{10}, 2\frac{7}{8}$

Greater Depth

7b. Tree B

8b. Brendan is correct because he swam $4\frac{5}{6}$ laps and Nina swam $4\frac{5}{7}$

9b. He has put $\frac{63}{70}$ and $\frac{42}{24}$ in the wrong order. The correct order is:

$1\frac{9}{10}, 1\frac{9}{12}, \frac{9}{10}, \frac{9}{11}, \frac{9}{12}$