WORKSHEET 23
Finding Equivalent Fractions with Related Denominators
Year 5 Mathematics — Fractions Strand
Australian Curriculum v9.0 — AC9M5N03

Name: _____   **Date:** _____

Section 1: Fluency - Completing Equivalents

Question 1: Find the missing number:

$$\frac{1}{2} = \frac{?}{8}$$

$$\frac{1}{2} \quad \xrightarrow{\times 4} \quad \frac{\square}{8} \quad \xrightarrow{\times 4}$$

Answer: _____

Question 2: Complete the chain:

$$\frac{1}{3} = \frac{2}{6} = \frac{?}{12}$$

Answer: _____

Question 3: Find the missing number:

$$\frac{2}{5} = \frac{?}{10}$$

1

Answer: _____

Question 4: Complete:

$$\frac{3}{4} = \frac{6}{?}$$

Answer: _____

Question 5: Find the missing number:

$$\frac{1}{4} = \frac{?}{12}$$

Answer: _____

Question 6: Complete the equivalence:
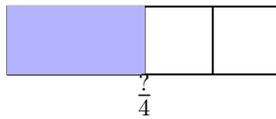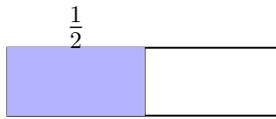
$$\frac{2}{3} = \frac{?}{9}$$

Answer: _____

Question 7: Fill in:

$$\frac{1}{5} = \frac{3}{?}$$

Answer: _____

Question 8: Look at these fraction models. What equivalent fractions do they show?

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

$$\frac{?}{4}$$

Answer: _____

> ## Equivalent Eagle Says:
>
> **"You're an Equivalent Expert!"**
>
> *Joke Time:* Why did the fraction go to the gym?
> To get in better shape... and find its equivalent!

Section 2: Reasoning - Identifying Related Denominators

Question 9: Which of these denominators are related to 5? Circle all that apply.

10   12   15   20   22

Answer: _____

Question 10: True or False: 4 and 10 are related denominators because 10 is a multiple of 4.

Answer: _____

Question 11: List three denominators that are related to 3.

Answer: _____

Question 12: Are 6 and 18 related denominators? Explain why or why not.

Answer: _____

Question 13: Which pair shows related denominators?
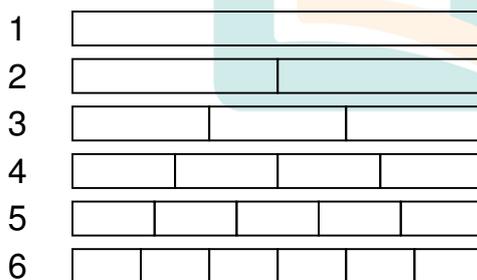a) 5 and 7   b) 4 and 12   c) 9 and 14

Answer: _____

Question 14: Complete: If 8 is a denominator, related denominators include 2, 4, and _____.

Answer: _____

Question 15: Look at the fraction wall. Which denominators are related to 2?

1
2
3
4
5
6

Answer: _____

4

Multiple Meerkat Says:

"You're a Related Rockstar!"

Joke Time: What do you call a fraction that's been multiplied?
An equivalent friend!

Section 3: Challenge - Simplification

Question 16: Simplify

$$\frac{4}{12}$$

by dividing both the numerator and denominator by their greatest common factor.

Answer: _____

Question 17: Reduce

$$\frac{6}{9}$$

to its simplest form.

Answer: _____

Question 18: Simplify

$$\frac{8}{12}$$

.

Answer: _____

Question 19: What is

$$\frac{10}{15}$$

5

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in its simplest form?

Answer: _____

Question 20: Simplify

$$\frac{6}{18}$$

.

Answer: _____

Question 21: Which fraction is already in its simplest form?
a)

$$\frac{4}{8}$$

b)

$$\frac{3}{7}$$

c)

$$\frac{6}{10}$$

Answer: _____

Question 22: Reduce

$$\frac{9}{12}$$

to its simplest form.

Answer: _____

Question 23: Challenge: Simplify

$$\frac{12}{16}$$

and explain your reasoning.

6

Answer: _____

Excellent work! Check your answers on the next page.

WORKSHEET 23
ANSWER KEY

Section 1: Fluency - Completing Equivalents

1. 4 (because

$$\frac{1}{2} = \frac{4}{8}$$

)

2. 4 (because

$$\frac{1}{3} = \frac{2}{6} = \frac{4}{12}$$

)

3. 4 (because

$$\frac{2}{5} = \frac{4}{10}$$

)

4. 8 (because

$$\frac{3}{4} = \frac{6}{8}$$

)

5. 3 (because

$$\frac{1}{4} = \frac{3}{12}$$

)

6. 6 (because

$$\frac{2}{3} = \frac{6}{9}$$

)

7. 15 (because

$$\frac{1}{5} = \frac{3}{15}$$

)

8.

$$\frac{2}{4}$$

(the models show

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

)

8

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Section 2: Reasoning - Identifying Related Denominators

9. 10, 15, 20 (all are multiples of 5)
10. False (10 is not a multiple of 4; related denominators must be multiples)
11. 6, 9, 12 (or any multiples of 3)
12. Yes, because 18 is a multiple of 6 (

$$6 \times 3 = 18$$

)
13. b) 4 and 12 (because 12 is a multiple of 4)
14. 16 (or any other multiple of 8)
15. 4 and 6 (denominators that are multiples of 2)

Section 3: Challenge - Simplification

16.

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

(divide both by 4)
17.

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

(divide both by 3)
18.

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

(divide both by 4)
19.

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

(divide both by 5)
20.

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

(divide both by 6)
21. b)

$$\frac{3}{7}$$

(cannot be simplified further)
22.

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

9

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(divide both by 3)

23.

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

(divide both by 4, the GCF)

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WORKSHEET 24
Comparing and Ordering Fractions with Related Denominators
Year 5 Mathematics — Fractions Strand
Australian Curriculum v9.0 — AC9M5N03

Name: _____   **Date:** _____

Section 1: Fluency - Converting to Compare

Question 1: To compare

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

and

$$\frac{3}{10}$$

, what denominator should you convert

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

into?

Answer: _____

Question 2: Compare

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

and

$$\frac{5}{6}$$

. Which is larger?

$\frac{2}{3} = \frac{?}{6}$ Compare with $\frac{5}{6}$

11

Answer: _____

Question 3: Which is greater:

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

or

$$\frac{3}{8}$$

?

Answer: _____

Question 4: Compare

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

and

$$\frac{7}{10}$$

. Use the symbol $>$, $<$, or $=$.

Answer: _____

Question 5: Which fraction is smaller:

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

or

$$\frac{5}{12}$$

?

Answer: _____

Question 6: Are

$$\frac{3}{6}$$

and

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

12

equal? Explain.

Answer: _____

Question 7: Compare:

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

____

$$\frac{5}{8}$$

Answer: _____

Question 8: Convert

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

to eighths, then compare with

$$\frac{7}{8}$$

.

Answer: _____

Comparing Koala Says:

"You're Comparing Like a Champion!"

Joke Time: Why was the fraction so good at comparing? It always knew its place value!

Section 2: Reasoning - Ordering Lists

Question 9: Order these fractions from smallest to largest:
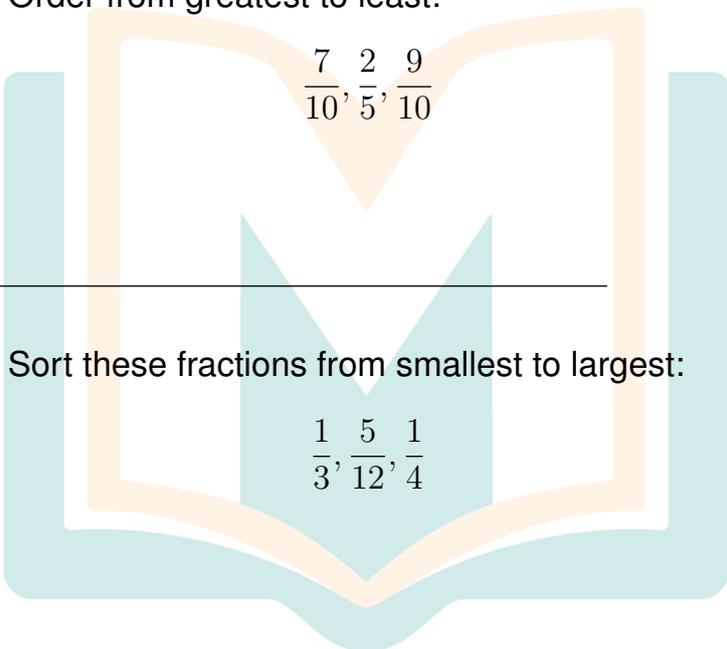
$$\frac{1}{2}, \frac{1}{4}, \frac{3}{8}$$

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Answer: _____

Question 10: Arrange in ascending order:

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

Answer: _____

Question 11: Order from greatest to least:

$$\frac{7}{10}, \frac{2}{5}, \frac{9}{10}$$

Answer: _____

Question 12: Sort these fractions from smallest to largest:

$$\frac{1}{3}, \frac{5}{12}, \frac{1}{4}$$

Answer: _____

Question 13: Which fraction is in the middle when you order

$$\frac{1}{2}, \frac{3}{4}, \frac{1}{8}$$
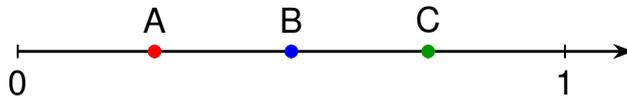
from smallest to largest?

Answer: _____

Question 14: Place these fractions in order:

$$\frac{5}{6}, \frac{1}{3}, \frac{2}{3}$$

14

Answer: _____

Question 15: Look at this number line. Which fractions are marked?

A   B   C

0   1

A = _____   B = _____   C = _____

Ordering Owl Says:

"You're an Ordering Ace!"

Joke Time: Why did the fractions line up?
They wanted to be in order!
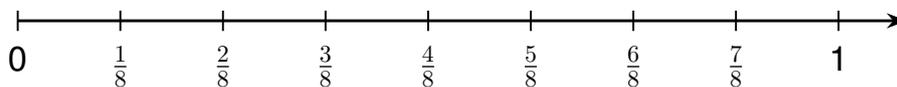
123

Section 3: Challenge - Number Line Placement

Question 16: Place

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

and

$$\frac{5}{8}$$

on the number line. Label each point.

0    $\frac{1}{8}$ $\frac{2}{8}$ $\frac{3}{8}$ $\frac{4}{8}$ $\frac{5}{8}$ $\frac{6}{8}$ $\frac{7}{8}$ 1

Answer: _____

Question 17: On the number line below, mark

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

15

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and

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

.

0 ├────────────┼────────────┼────────────→ 1

Answer: _____

Question 18: Which fraction is closer to 1:

$$\frac{7}{8}$$

or

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

?

Answer: _____

Question 19: Place these fractions on a number line and identify which is closest to

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

:

$$\frac{3}{8}, \frac{5}{8}, \frac{2}{4}$$
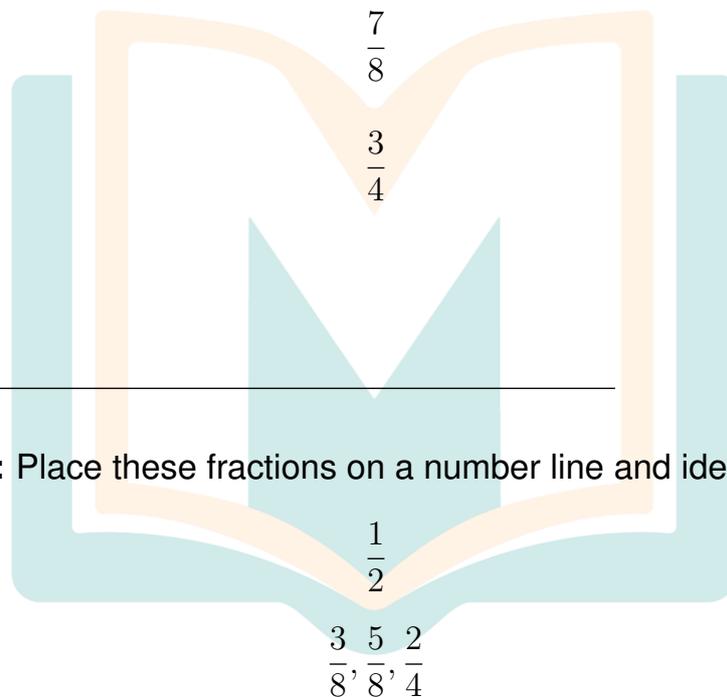
Answer: _____

Question 20: Between which two fractions does

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

lie?
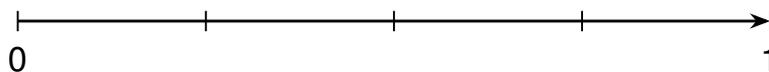
$$\frac{3}{10}$$

and

$$\frac{7}{10}$$

16

Answer: _____

Question 21: Mark

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

and

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

on the number line.

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├────────┼────────┼────────┼────────→
0                                    1
```

Answer: _____

Question 22: Challenge: If

$$\frac{5}{12}$$

is marked on a number line, where would

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

and

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

be in relation to it?

Answer: _____

> ## Number Line Numbat Says:
>
> **"You're a Placement Pro!"**
>
> *Joke Time:* Why do fractions love number lines?
> Because they always know where they stand!

Outstanding work! Check your answers on the next page.

Section 1: Fluency - Converting to Compare

1. 10 (convert to tenths:

$$\frac{1}{2} = \frac{5}{10}$$

)

2.

$$\frac{5}{6}$$

is larger (

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

, and

$$\frac{5}{6} > \frac{4}{6}$$

)

3.

$$\frac{3}{8}$$

(

$$\frac{1}{4} = \frac{2}{8}$$

, and

$$\frac{3}{8} > \frac{2}{8}$$

)

4.

$$\frac{2}{5} < \frac{7}{10}$$

(

$$\frac{2}{5} = \frac{4}{10}$$

, and

$$\frac{4}{10} < \frac{7}{10}$$

)

5.

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

(

$$\frac{1}{3} = \frac{4}{12}$$

, and

$$\frac{4}{12} < \frac{5}{12}$$

)

6. Yes, they are equal (

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

when simplified)

7.

$$\frac{3}{4} > \frac{5}{8}$$

(

$$\frac{3}{4} = \frac{6}{8}$$

, and

$$\frac{6}{8} > \frac{5}{8}$$

)

8.

$$\frac{1}{2} = \frac{4}{8}$$

, so

$$\frac{4}{8} < \frac{7}{8}$$

Section 2: Reasoning - Ordering Lists

9.

$$\frac{1}{4}, \frac{3}{8}, \frac{1}{2}$$

10.

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

11.

$$\frac{9}{10}, \frac{7}{10}, \frac{2}{5}$$

(greatest to least)

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12.

$$\frac{1}{4}, \frac{1}{3}, \frac{5}{12}$$

13.

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

(order is

$$\frac{1}{8}, \frac{1}{2}, \frac{3}{4}$$

)

14.

$$\frac{1}{3}, \frac{2}{3}, \frac{5}{6}$$

15. A =

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

, B =

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

, C =

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

Section 3: Challenge - Number Line Placement

16.

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

at

$$\frac{4}{8}$$

,

$$\frac{5}{8}$$

as marked,

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

at

$$\frac{6}{8}$$

17.

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

20

at the first mark,

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

at the second mark

18.

$$\frac{7}{8}$$

(

$$\frac{7}{8}$$

is

$$\frac{1}{8}$$

from 1;

$$\frac{3}{4} = \frac{6}{8}$$

is

$$\frac{2}{8}$$

from 1)

19.

$$\frac{2}{4}$$

(which equals

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

exactly)

20.

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

lies between them (

$$\frac{3}{10} < \frac{5}{10} < \frac{7}{10}$$

)

21.

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

at first mark,

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

at middle,

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

at third mark

21

22.

$$\frac{1}{3} = \frac{4}{12}$$

would be to the left,

$$\frac{1}{2} = \frac{6}{12}$$

would be to the right of

$$\frac{5}{12}$$

Brilliant!

You've mastered Fractions with Related Denominators!
Keep up the fantastic work in Year 5 Maths!

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