

LOs:

- To identify equivalent fractions, decimals and percentages.
- To convert mixed numbers to improper fractions and vice versa
 - To simplify fractions
 - To order and compare fractions

TASK 1- Write these equivalence in your book- take some time to memorise them- as these are the equivalence you should know off by heart.

| | | |
|-------|---------|--------|
| 1/1 | 100% | 1.0 |
| 1/2 | 50% | 0.5 |
| 1/3 | 33.333% | 0.3333 |
| 1/4 | 25% | 0.25 |
| 1/5 | 20% | 0.2 |
| 1/10 | 10% | 0.1 |
| 1/20 | 5% | 0.05 |
| 1/100 | 1% | 0.01 |

Watch this video of tips to help calculate equivalences:

TASK 2- Fill in the blanks

A

75%

0.75

 $2/3$

B

0.66666

 $4/5$

C

D

 $7/10$

70%

E

F

30%

G

 $3/20$

H

I

J

72%

0.72

K

L

0.09

TASK 2- ANSWERS

$3/4$

75%

0.75

$2/3$

66.66%

0.66666

$4/5$

80%

0.8

$7/10$

70%

0.7

$3/10$

30%

0.3

$3/20$

15%

0.15

$72/100$

72%

0.72

$9/100$

9%

0.09

How to find equivalent fractions

To find equivalent fractions we need to apply the grandad rule.

This means whatever I do to the numerator I must do to the denominator.

So to find equivalent fractions, I can multiply by a given amount (making sure I do both the numerator and denominator)

E.g.

The diagram illustrates the process of finding an equivalent fraction. It shows two fractions: $\frac{5}{7}$ on the left and $\frac{15}{21}$ on the right. A curved arrow points from the numerator 5 to the numerator 15, with the label "x3" above it. Another curved arrow points from the denominator 7 to the denominator 21, with the label "x3" below it. This visualizes the "grandad rule" where both the numerator and denominator are multiplied by the same number (3) to create an equivalent fraction.

TASK 3- Fill in the gaps

$$\frac{2}{7} = \frac{A}{14} = \frac{10}{B} = \frac{20}{C}$$

$$\frac{1}{9} = \frac{4}{D} = \frac{E}{45} = \frac{F}{180}$$

$$\frac{3}{4} = \frac{6}{G} = \frac{H}{20} = \frac{63}{I}$$

$$\frac{20}{30} = \frac{10}{J} = \frac{2}{K}$$

TASK 3- ANSWERS

$$A=4$$

$$B=35$$

$$C=70$$

$$D=36$$

$$E=5$$

$$F=20$$

$$G=8$$

$$H=15$$

$$I=84$$

$$J=15$$

$$K=3$$

Let's recap on how to convert mixed numbers to improper fractions.

Watch the video to recap on the method:

<https://www.youtube.com/watch?v=-jKoGmh8gJE>

TASK 4- Convert mixed fractions to improper and vice versa

Part 1:

1. $7 \frac{3}{5} =$ _____

2. $6 \frac{5}{8} =$ _____

3. $9 \frac{2}{10} =$ _____

4. $2 \frac{2}{4} =$ _____

5. $6 \frac{1}{9} =$ _____

6. $5 \frac{5}{7} =$ _____

7. $3 \frac{1}{8} =$ _____

8. $3 \frac{3}{12} =$ _____

9. $6 \frac{1}{11} =$ _____

Part 2:

1) $\frac{15}{4} =$

2) $\frac{17}{6} =$

3) $\frac{13}{2} =$

4) $\frac{19}{5} =$

5) $\frac{24}{6} =$

6) $\frac{26}{5} =$

7) $\frac{33}{7} =$

8) $\frac{28}{8} =$

TASK 4- ANSWERS

Part 1:

$$1. \quad 7 \frac{3}{5} = \underline{38/5}$$

$$2. \quad 6 \frac{5}{8} = \underline{53/8}$$

$$3. \quad 9 \frac{2}{10} = \underline{92/10}$$

$$4. \quad 2 \frac{2}{4} = \underline{10/4}$$

$$5. \quad 6 \frac{1}{9} = \underline{55/9}$$

$$6. \quad 5 \frac{5}{7} = \underline{40/7}$$

$$7. \quad 3 \frac{1}{8} = \underline{25/8}$$

$$8. \quad 3 \frac{3}{12} = \underline{39/12}$$

$$9. \quad 6 \frac{1}{11} = \underline{67/11}$$

Part 2:

$$1) \quad \frac{15}{4} = 3 \frac{3}{4}$$

$$2) \quad \frac{17}{6} = 2 \frac{5}{6}$$

$$3) \quad \frac{13}{2} = 6 \frac{1}{2}$$

$$4) \quad \frac{19}{5} = 3 \frac{4}{5}$$

$$5) \quad \frac{24}{6} = 4$$

$$6) \quad \frac{26}{5} = 5 \frac{1}{5}$$

$$7) \quad \frac{33}{7} = 4 \frac{5}{7}$$

$$8) \quad \frac{28}{8} = 3 \frac{4}{8}$$

Let's recap on how to simplify fractions.

$$\frac{16}{20}$$

Step 1: Find the highest common factor (4 is the HCF of 16 and 20)

Step 2: Divide the numerator and denominator by the HCF

$$16 \div 4 = 4$$

$$20 \div 4 = 5$$

So $\frac{16}{20}$ in the simplest form is $\frac{4}{5}$

Step 3: Check you that the numerator and denominator have no other common factors other than 1 to ensure you have simplified fully

TASK 5- Simplify each of the fractions associated with the letters and then fill in the blanks below to reveal the answer

$$\text{A } \frac{6}{38}$$

$$\text{B } \frac{10}{12}$$

$$\text{C } \frac{2}{12}$$

$$\text{D } \frac{27}{33}$$

$$\text{E } \frac{10}{65}$$

$$\text{F } \frac{9}{15}$$

$$\text{G } \frac{14}{21}$$

$$\text{H } \frac{14}{22}$$

$$\text{I } \frac{5}{15}$$

$$\text{J } \frac{2}{198}$$

$$\text{K } \frac{24}{32}$$

$$\text{L } \frac{42}{60}$$

$$\text{M } \frac{20}{28}$$

$$\text{N } \frac{25}{45}$$

$$\text{O } \frac{12}{80}$$

$$\text{P } \frac{12}{44}$$

$$\text{Q } \frac{8}{10}$$

$$\text{R } \frac{3}{21}$$

$$\text{S } \frac{30}{100}$$

$$\text{T } \frac{8}{18}$$

$$\text{U } \frac{10}{45}$$

$$\text{V } \frac{18}{21}$$

$$\text{W } \frac{22}{40}$$

$$\text{X } \frac{3}{12}$$

$$\text{Y } \frac{4}{10}$$

$$\text{Z } \frac{4}{8}$$

What did one math book say to the other?

,

$$\frac{9}{11}$$

$$\frac{3}{20}$$

$$\frac{5}{9}$$

$$\frac{4}{9}$$

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

$$\frac{3}{20}$$

$$\frac{4}{9}$$

$$\frac{7}{11}$$

$$\frac{2}{13}$$

$$\frac{3}{21}$$

$$\frac{5}{7}$$

$$\frac{2}{13}$$

,

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

$$\frac{6}{7}$$

$$\frac{2}{13}$$

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

$$\frac{3}{20}$$

$$\frac{4}{9}$$

$$\frac{5}{7}$$

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

$$\frac{3}{20}$$

$$\frac{11}{20}$$

$$\frac{5}{9}$$

$$\frac{3}{11}$$

$$\frac{3}{21}$$

$$\frac{3}{20}$$

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

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

$$\frac{2}{13}$$

$$\frac{5}{7}$$

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

TASK 5- ANSWER

Don't bother me I've got my own problems

Now let's look at how we order and compare fractions:

Watch this video as a recap:

<https://www.youtube.com/watch?v=Sfx3L-WGgt0>

TASK 6a:

Use < > symbols to compare

Write the question in your book

$$1) \quad \frac{2}{4} \quad \square \quad \frac{7}{9}$$

$$2) \quad \frac{5}{7} \quad \square \quad \frac{3}{5}$$

$$3) \quad \frac{1}{2} \quad \square \quad \frac{2}{3}$$

$$4) \quad \frac{2}{5} \quad \square \quad \frac{3}{12}$$

$$5) \quad \frac{1}{2} \quad \square \quad \frac{2}{9}$$

$$6) \quad \frac{7}{12} \quad \square \quad \frac{4}{6}$$

$$7) \quad \frac{5}{10} \quad \square \quad \frac{1}{3}$$

Task 6b

Order these fractions from smallest to largest:

$$1) \quad \frac{7}{8} ; \frac{1}{2} ; \frac{7}{10} ; \frac{2}{3}$$

$$2) \quad \frac{1}{3} ; \frac{2}{3} ; \frac{1}{10} ; \frac{1}{2} ; \frac{2}{5} ; \frac{5}{8}$$

$$3) \quad \frac{1}{8} ; \frac{1}{3} ; \frac{1}{4} ; \frac{7}{10} ; \frac{2}{3} ; \frac{3}{4}$$

TASK 6a:

ANSWERS

$$1) \quad \frac{2}{4} \quad < \quad \frac{7}{9}$$

$$2) \quad \frac{5}{7} \quad > \quad \frac{3}{5}$$

$$3) \quad \frac{1}{2} \quad < \quad \frac{2}{3}$$

$$4) \quad \frac{2}{5} \quad > \quad \frac{3}{12}$$

$$5) \quad \frac{1}{2} \quad > \quad \frac{2}{9}$$

$$6) \quad \frac{7}{12} \quad < \quad \frac{4}{6}$$

$$7) \quad \frac{5}{10} \quad > \quad \frac{1}{3}$$

Task 6b

ANSWERS

| | |
|---|---|
| 1) $\frac{7}{10} ; \frac{7}{8} ; \frac{1}{2} ; \frac{2}{3}$ $\frac{1}{2} ; \frac{2}{3} ; \frac{7}{10} ; \frac{7}{8}$ | 2) $\frac{2}{3} ; \frac{1}{10} ; \frac{5}{8} ; \frac{1}{2} ; \frac{1}{3} ; \frac{2}{5}$ $\frac{1}{10} ; \frac{1}{3} ; \frac{2}{5} ; \frac{1}{2} ; \frac{5}{8} ; \frac{2}{3}$ |
| 3) $\frac{2}{3} ; \frac{3}{4} ; \frac{7}{10} ; \frac{1}{4} ; \frac{1}{3} ; \frac{1}{8}$ $\frac{1}{8} ; \frac{1}{4} ; \frac{1}{3} ; \frac{2}{3} ; \frac{7}{10} ; \frac{3}{4}$ | |