

RECALL

Find the highest common factor and then simplify:

a $\frac{15}{20}$ HCF is $\rightarrow \frac{15}{20} \div \frac{\text{HCF}}{\text{HCF}} = \frac{\text{HCF}}{\text{HCF}}$

b $\frac{9}{30}$ HCF is $\rightarrow \frac{9}{30} \div \frac{\text{HCF}}{\text{HCF}} = \frac{\text{HCF}}{\text{HCF}}$

c $\frac{16}{24}$ HCF is $\rightarrow \frac{16}{24} \div \frac{\text{HCF}}{\text{HCF}} = \frac{\text{HCF}}{\text{HCF}}$

d $\frac{12}{36}$ HCF is $\rightarrow \frac{12}{36} \div \frac{\text{HCF}}{\text{HCF}} = \frac{\text{HCF}}{\text{HCF}}$

Which is bigger?
PROVE IT!

$$\frac{3}{12} \quad \frac{2}{12}$$

$$\frac{5}{16} \quad \frac{11}{16}$$

RECALL

Question 1: Arrange the following sets of fractions in order, from smallest to largest

(a) $\frac{6}{7}, \frac{1}{7}, \frac{2}{7}, \frac{5}{7}$

(b) $\frac{3}{10}, \frac{9}{10}, \frac{1}{10}, \frac{7}{10}$

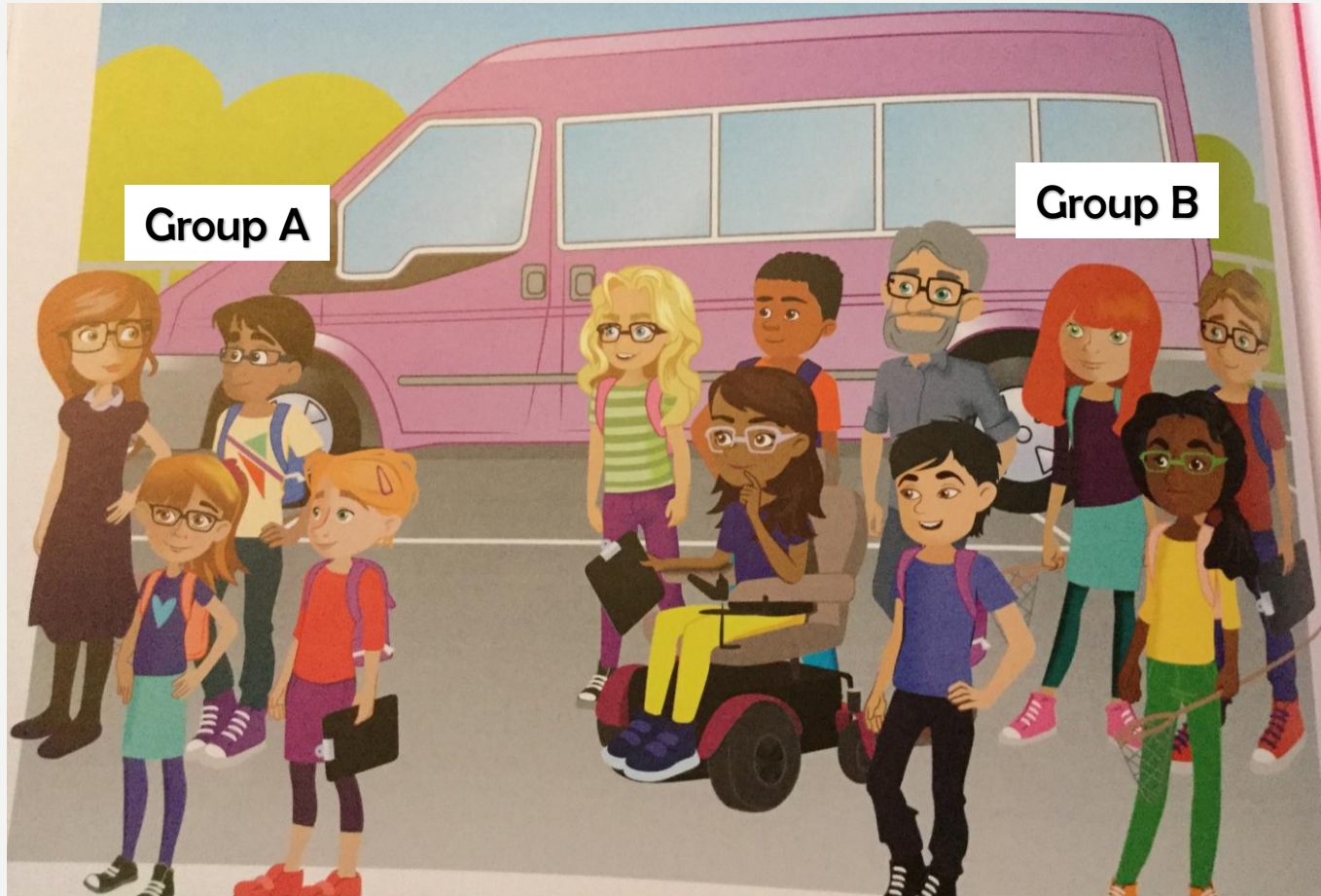
(c) $\frac{2}{9}, \frac{8}{9}, \frac{5}{9}, \frac{1}{9}$

L.O. - TO COMPARE AND ORDER FRACTIONS (DENOMINATOR)

- **SOME WILL EVEN:** Solve problems involving converting and comparing fractions.
- **SOME WILL:** Order fractions (using common denominator).
- **MOST WILL:** Convert fractions so denominator is equal (LCM)
- **ALL WILL:** Order fractions that have same denominator.



GUIDED PRACTICE – MY TURN



1 a) Which group has a bigger fraction of people wearing glasses?

b) Some more people are in Group C. $\frac{2}{3}$ of the people in group C are wearing glasses.

Which group now has the biggest fraction of people wearing glasses?

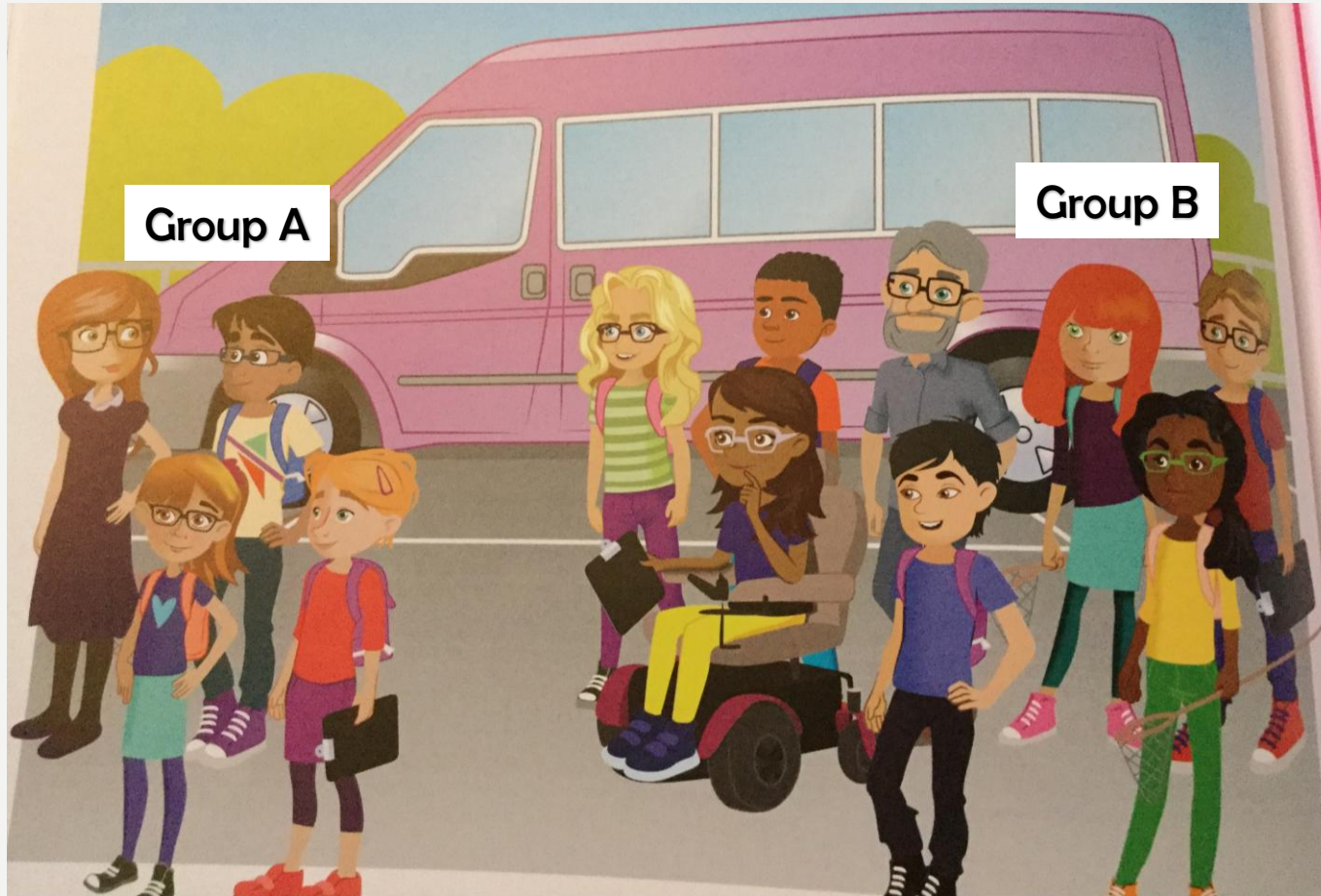
help

Use the bar model to help you.



Can you make this problem easier to solve using your knowledge of fractions?

GUIDED PRACTICE – MY TURN



1 a) Which group has a bigger fraction of people wearing glasses?

b) Some more people are in Group C. $\frac{2}{3}$ of the people in group C are wearing glasses.

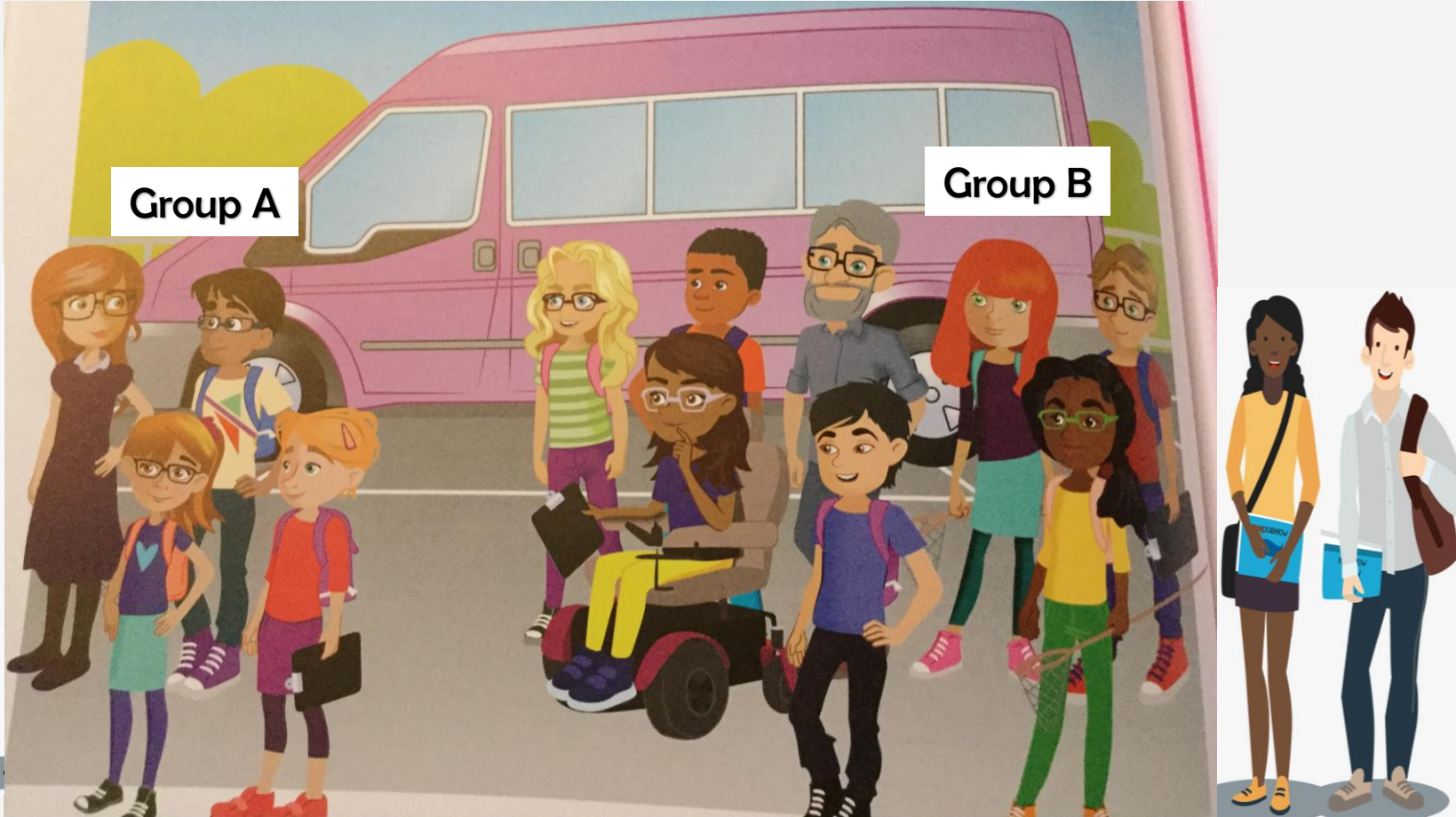
Which group now has the biggest fraction of people wearing glasses?

help

Use the bar model to help you.



Can you make this problem easier to solve using your knowledge of fractions?



b) Some more people are in Group C. $\frac{2}{3}$ of the people in group C are wearing glasses.

Which group now has the biggest fraction of people wearing glasses?

Use the bar model to help you.





Find the **LOWEST COMMON MULTIPLE (LCM)** of these numbers:

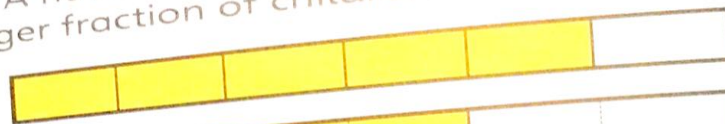
- a) 5 and 3
- b) 3 and 6
- c) 2 and 8
- d) 5 and 15
- e) 2 3 and 6
- f) 2 4 and 8



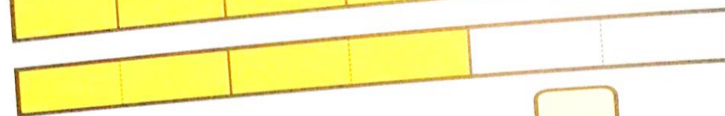
Think together!

a) $\frac{5}{6}$ of Class A have brown hair. $\frac{2}{3}$ of Class B have brown hair. Which class has a bigger fraction of children with brown hair?

Class A



Class B



The LCM of 6 and 3 is . $\frac{2}{3} = \frac{\text{input}}{6}$ $\frac{5}{6}$ $\frac{\text{input}}{6}$ so $\frac{5}{6}$ $\frac{2}{3}$
 Class has a bigger fraction of children with brown hair.



$\frac{1}{2}$ of Class A has a pet. $\frac{3}{8}$ of Class B have a pet.
 Which class has a bigger fraction of children with a pet?

Class A



Class B



The LCM of 2 and 8 is . $\frac{1}{2} = \frac{\text{input}}{\text{input}}$ $\frac{1}{2}$ $\frac{3}{8}$
 Class has a bigger fraction of children with a pet.



$\frac{4}{6}$ of a class F love maths. $\frac{2}{24}$ out of class G love maths.
 Which class loves maths the most?



Find the LOWEST COMMON MULTIPLE (LCM) of these numbers:

a) 5 and 3 15

b) 3 and 6 6

c) 2 and 8 8

d) 5 and 15 15

e) 2 3 and 6 6

f) 2 4 and 8 8



16 therefore class F

4 24

6 of a class F love maths. 24 out of class G love maths.

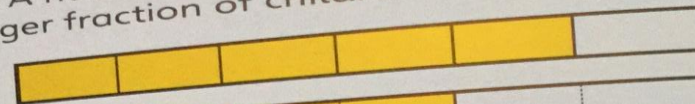
Which class loves maths the most?



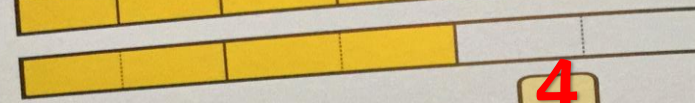
Think together

a) $\frac{5}{6}$ of Class A have brown hair. $\frac{2}{3}$ of Class B have brown hair. Which class has a bigger fraction of children with brown hair?

Class A



Class B



The LCM of 6 and 3 is 6.

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

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

so $\frac{5}{6} > \frac{2}{3}$

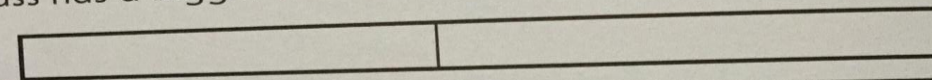
Class A has a bigger fraction of children with brown hair.



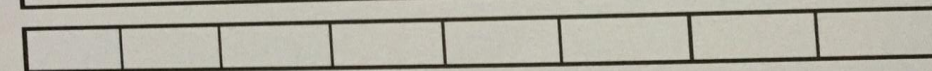
b) $\frac{1}{2}$ of Class A has a pet. $\frac{3}{8}$ of Class B have a pet.

Which class has a bigger fraction of children with a pet?

Class A



Class B

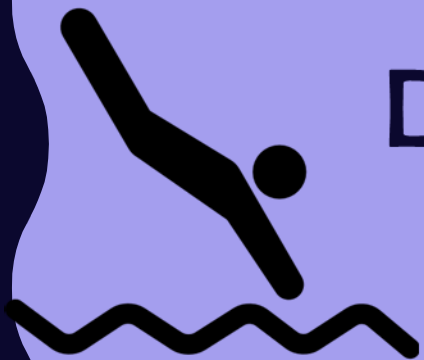


The LCM of 2 and 8 is 8.

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

$$\frac{1}{2} > \frac{3}{8}$$

Class A has a bigger fraction of children with a pet.



DIVE DEEPER 1

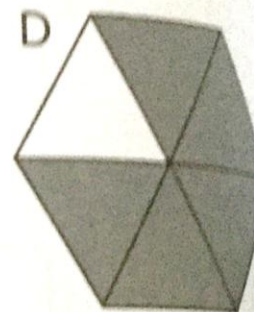
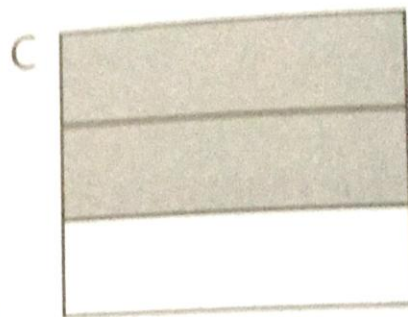
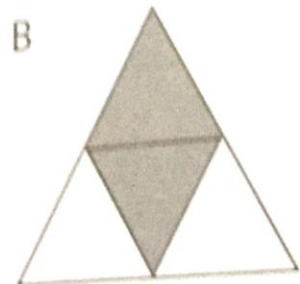
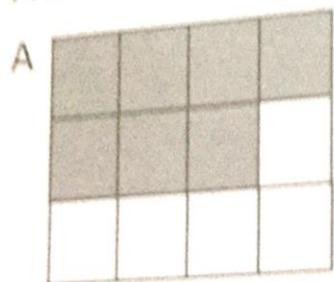
2

1

THINK

How many ways can you write $\frac{2}{5}$? Find at least eight ways.

3 A fraction of each shape is shaded.



Put the shapes in order of the fraction shaded. Start with the shape with the biggest fraction shaded.

1

$$\frac{3}{8} \square \frac{1}{4}$$

2

$$\frac{7}{12} \square \frac{3}{4}$$

3

$$\frac{5}{6} \square \frac{2}{3}$$

4

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

5

$$\frac{1}{3} \square \frac{4}{9}$$

6

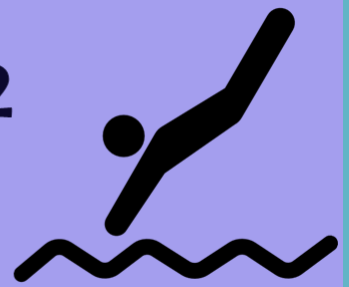
$$\frac{1}{2} \square \frac{3}{5}$$

4 Put these fractions in order from biggest to smallest.

a) $\frac{11}{15}, \frac{2}{3}, \frac{7}{10}, \frac{1}{2}$

b) $\frac{1}{6}, \frac{3}{3}, \frac{7}{8}, \frac{3}{4}$

DIVE DEEPER 2



5 Here is a school newspaper article.



Y6 children at Power Maths Primary voted on their favourite flavour of ice-cream. $\frac{3}{8}$ of the children chose strawberry. $\frac{2}{5}$ of the children chose chocolate. $\frac{9}{40}$ of the children chose lemon flavour. This shows that lemon is the most popular flavour.

Do you agree with the article? Why?

6 Write in the missing digits so that the fractions are in ascending order.

a) $\frac{1}{3}$ $\frac{\boxed{}}{12}$ $\frac{2}{3}$ $\frac{5}{6}$

b) $\frac{\boxed{}}{2}$ $\frac{7}{\boxed{}}$ $\frac{\boxed{}}{3}$ $\frac{\boxed{}}{8}$

CHALLENGE

Remember that ascending means from smallest to biggest.



Only a fraction of each whole rod is shown. Using the given information, identify which whole rod is longer.



Explain your reasoning.



DIVE DEEPER 1



2

1



How many ways can you write $\frac{2}{5}$? Find at least eight ways.

$\frac{4}{10}$ $\frac{6}{15}$ $\frac{8}{20}$ $\frac{10}{25}$ $\frac{12}{30}$ $\frac{14}{35}$ $\frac{16}{40}$ $\frac{18}{45}$ $\frac{20}{50}$

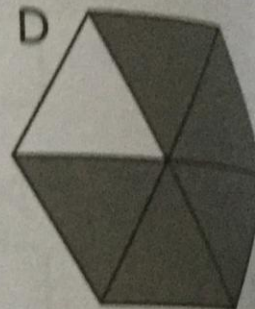
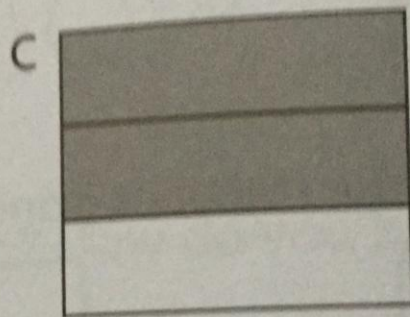
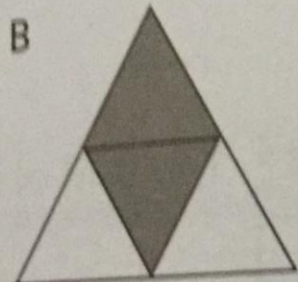
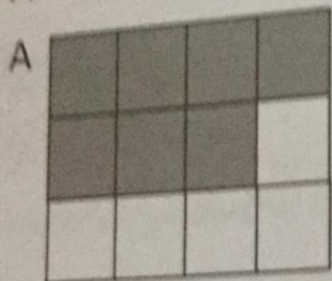
$\frac{7}{12}$

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

$\frac{2}{3} = \frac{8}{12}$

$\frac{5}{6} = \frac{10}{12}$

3 A fraction of each shape is shaded.



Put the shapes in order of the fraction shaded. Start with the shape with the biggest fraction shaded.

D

C

A

B

1

$\frac{3}{8} > \frac{1}{4}$

2

$\frac{7}{12} < \frac{3}{4}$

3

$\frac{5}{6} > \frac{2}{3}$

4

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

5

$\frac{1}{3} < \frac{4}{9}$

6

$\frac{1}{2} < \frac{3}{5}$

4 Put these fractions in order from biggest to smallest.

a) $\frac{11}{15}, \frac{2}{3}, \frac{7}{10}, \frac{1}{2}$

b) $\frac{1}{6}, \frac{3}{3}, \frac{7}{8}, \frac{3}{4}$

$$\frac{11}{15} = \frac{22}{30}, \quad \frac{2}{3} = \frac{20}{30}, \quad \frac{7}{10} = \frac{21}{30}, \quad \frac{1}{2} = \frac{15}{30}$$

$$\frac{11}{15} = \frac{7}{10} = \frac{2}{3} = \frac{1}{2}$$

$$\frac{1}{6} = \frac{4}{24}, \quad \frac{3}{3} = \frac{24}{24}, \quad \frac{7}{8} = \frac{21}{24}, \quad \frac{3}{4} = \frac{18}{24}$$

$$\frac{3}{3} = \frac{7}{8} = \frac{3}{4} = \frac{1}{6}$$



DIVE DEEPER 2



5 Here is a school newspaper article.

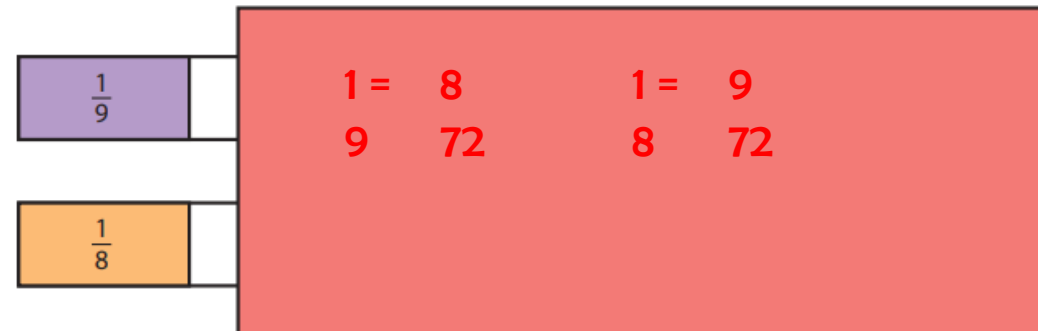


Y6 children at Power Maths Primary voted on their favourite flavour of ice-cream. $\frac{3}{8}$ of the children chose strawberry. $\frac{2}{5}$ of the children chose chocolate. $\frac{9}{40}$ of the children chose lemon flavour. This shows that lemon is the most popular flavour.

Do you agree with the article? Why?

$$\frac{3}{8} = \frac{15}{40}, \quad \frac{2}{5} = \frac{16}{40}$$

Only a fraction of each whole rod is shown. Using the given information, identify which whole rod is longer.



6 Write in the missing digits so that the fractions are in ascending order.

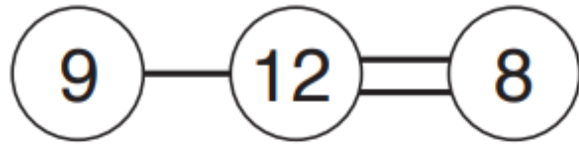
a) $\frac{1}{3}, \frac{6}{12}, \frac{2}{3}, \frac{5}{6}$

b) $\frac{1}{2}, \frac{7}{12}, \frac{2}{3}, \frac{8}{8}$

Remember that ascending means from smallest to biggest.

CHALLENGE

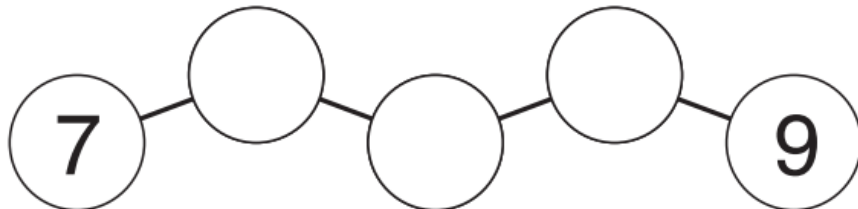
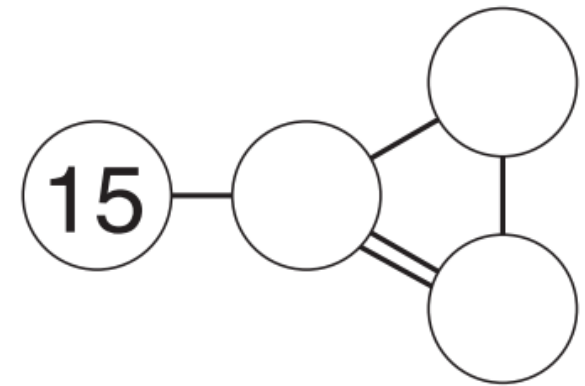
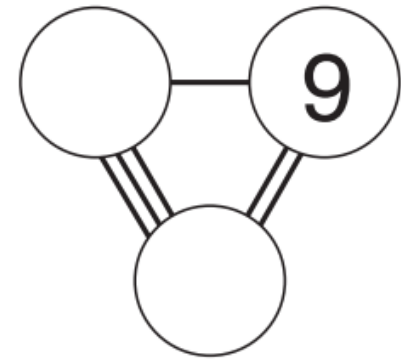
Explain your reasoning.



The bars connecting the pairs of numbers in the diagram above show how many common factors greater than 1 are shared by each pair. Notice, for example, that 12 and 8 are connected by two bars because they share a 2 and a 4. Also, 9 and 8 are not connected because their only common factor is 1 itself.

Challenge

Fill in each puzzle below with distinct numbers from 1 to 20. Remember that if two numbers are not connected, then 1 must be their only common factor.



CHALLENGE