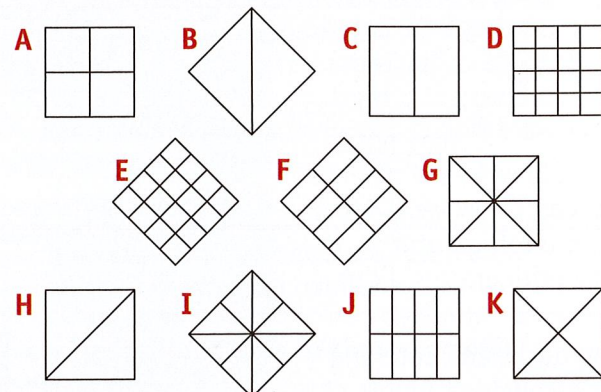# Number & Algebra

ACMNA125

Equivalent fractions

These squares have been divided in equal parts. The parts of each square are **equal** so we call them **fractions of the whole, or just fractions**. Use them to answer the questions.

A B C D
E F G
H I J K

Note: Equivalent means things are equal in value, even if they are different in other ways.

① What is one part of square A as a fraction?

_____

② What is one part of square I as a fraction?

_____

③ What is one part of square E as a fraction?

_____

④ How many fractions of square D are equivalent to one fraction of square C?

_____

⑤ How many fractions of square G are equivalent to one fraction of square H?

_____

⑥ How many fractions of square B are equivalent to one fraction of square H?

_____

⑦ How many fractions of square J are equivalent to two fractions of square G?

_____

⑧ How many fractions of square F are equivalent to three fractions of square A?

_____

⑨ How many fractions of square I are equivalent to three fractions of square K?

_____

⑩ How many fractions of square F are equivalent to half the fractions of square E?

_____

⑪ As a fraction, what are three parts of square I?

_____

⑫ As a fraction, what are five parts of square J?

_____

⑬ As a fraction, what are eleven parts of square E?

_____

Score 2 points for each correct answer! **SCORE /26** (0-10) (12-20) (22-26)

Statistics & Probability

ACMSP144

Describing probabilities

This table shows different probabilities when four and five coins are tossed.

Some figures have been left out. Work out the answers for the spaces numbered 1–12. Use a calculator if you need to.

Note: H = Head and **T** = Tail.
Target means 'the desired result'.

Toss	Target	Chance of getting the Target		
		Decimal	Fraction	Percent
4 coins	4 H	0.0625	$\frac{1}{16}$	①
4 coins	2 T	②	$\frac{3}{8}$	37.5%
4 coins	1 T	0.25	③	25%
4 coins	at least 1 H	④	$\frac{5}{16}$	31.25%
4 coins	at least 2 T	0.6875	$\frac{11}{16}$	⑤
4 coins	at least 3 H	0.3125	⑥	31.25%
5 coins	5 T	⑦	$\frac{1}{32}$	3.125%
5 coins	3 H	0.0625	⑧	6.25%
5 coins	1 H	⑨		6.25%
5 coins	at least 2 T		$\frac{26}{32}$	⑩
5 coins	at least 3 H	0.5	⑪	
5 coins	at least 4 T	0.1875	⑫	18.75%

Score 2 points for each correct answer! **SCORE /24** (0-10) (12-18) (20-24)

Measurement & Geometry

ACMMG136

Converting units of volume

The following table shows conversions for some units of volume.

Some spaces have been shaded grey because the values are too large or too small to be useful for this activity.

Write the values for the spaces numbered from 1 to 8 on the lines below the table.

Millilitres (mL)	Litres (L)	Kilolitres (kL)	Megalitres (ML)
3250	①	0.003 25	
72 555	72.555	②	
③	125	0.0125	0.000 125
1 700 000	1700	④	0.0017
	⑤	13.450	0.013 450
	1 355 000	1355	⑥
	⑦	995	0.995
	13 095 000	⑧	13.095

① _____   ⑤ _____
② _____   ⑥ _____
③ _____   ⑦ _____
④ _____   ⑧ _____

Write the answers.

⑨ How many millilitres are in 17.75 L?

_____

⑩ How many litres are in 0.35 kL?

_____

⑪ How many kilolitres are in 13.84 ML?

_____

⑫ How many megalitres are in ten thousand and sixty-five kilolitres?

_____

⑬ How many litres are in 45.7 mL?

_____

⑭ How many millilitres are in 31.75 kL?

_____

⑮ How many kilolitres are in $\frac{3}{4}$ ML?

_____

Score 2 points for each correct answer! **SCORE /30** (0-12) (14-24) (26-30)

Problem Solving

ACMNA125, ACMSP144, ACMMG136

① Jack had two-quarters of a cake and Jill had three-eighths of it. Who had more cake?

_____

② Jack had three-sixteenths, Jill had a quarter and Humpty had an eighth of a cake. Who had the most cake?

_____

③ Jack had two-quarters of a cake, Jill had half as much as Jack and Humpty had the rest. Who had the most cake?

_____

④ Jack had three-sixteenths of a cake, Jill had two-eighths and Humpty had the rest. Who had the most cake?

_____

⑤ Jack had three-eighths of a cake, Jill had half of it and Humpty had a sixteenth. How much of the cake was left?

_____

⑥ In a game of chance, Meli had $\frac{1}{4}$ chance of winning and Malakai had 0.35 chance of winning. Who had the better chance of winning?

_____

⑦ In a game of chance, Meli had the same chance of winning as Malakai but Pita had 40% chance of winning. If one of them had to win the game, how much chance did Meli and Malakai each have?

_____

⑧ In a game of chance, the chances of winning were: $\frac{1}{4}$ to Meli, 0.125 to Malakai and 35% to Pita. What was the chance that none of them would win?

_____

⑨ Rawiri had 750 cubic centimetres of apple juice of which he drank half. How much did he have left in millilitres?

_____

⑩ Ihaia had 1000 cm³ of tomato juice and he gave a quarter of it to Rawiri. How much did he have left in litres?

_____