

Prime and Square Numbers





What is a prime or a square number?

A PRIME number is a whole number greater than 1 that cannot be exactly divided by any whole number other than itself and 1 (e.g. 2, 3, 5, 7, 11).

A SQUARE number is the product of a number multiplied by itself, e.g. 1, 4, 9, 16.

True or False ?

Prime numbers

2 is a prime number.

True or False ?

Prime numbers

True

2 has exactly two factors.

- A prime number has exactly two factors: 1 and itself.

A composite number has more than two factors.

Which of the numbers are prime and which are composite?

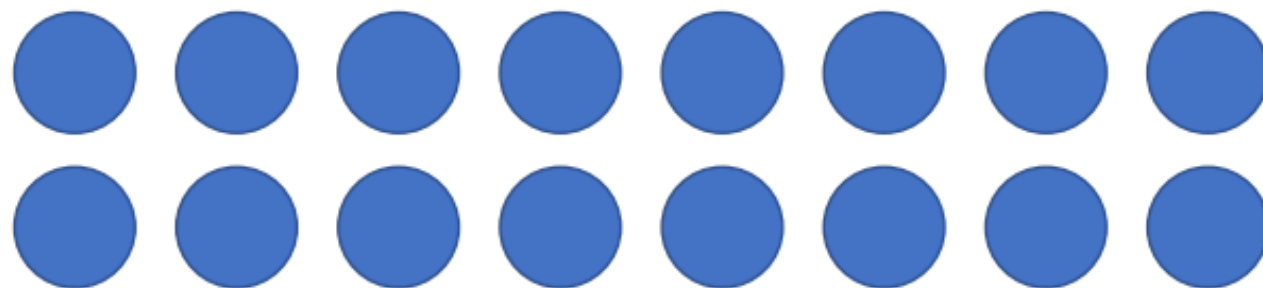


Focus 1:

True or False?

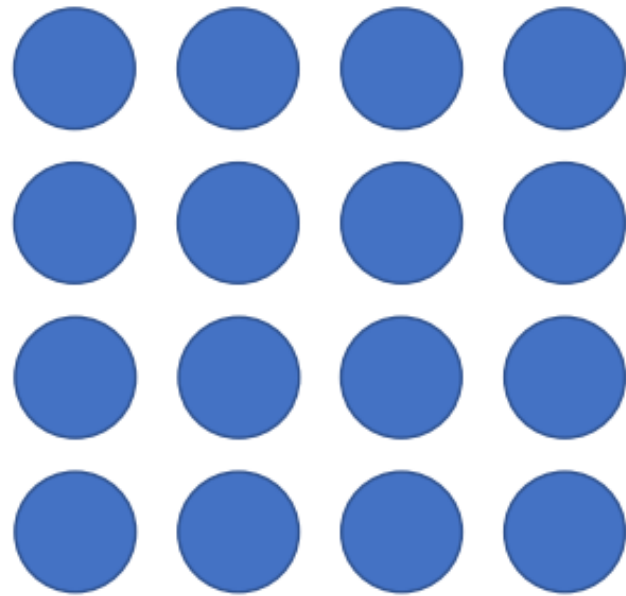
Square numbers

The array shows that 16 is not a square number.



False

16 can also be arranged in this array,
so it is a square number.



$$4^2 = 4 \times 4 = 16$$



Dani is thinking of a square number with two digits.

The digits add together to make another square number.

What could the number be?

81

36

Dr Trent is celebrating his birthday.

His age is a square number.

Last year, his age was a multiple of 12

Next year, his age will be a multiple of 10

How old is Dr Trent?

Dr Trent is 49 years old

48 Year before multiple of 12

50 Multiple of 10

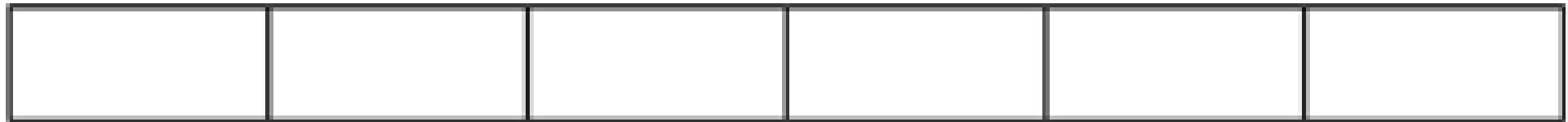
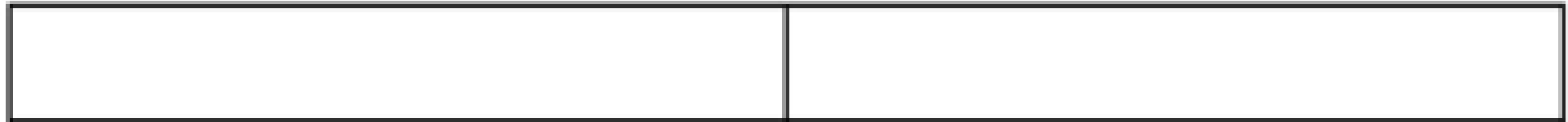
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WALT: add fractions within 1

Complete the additions.

Use the bar models to help you.

a)



$$\frac{1}{2} + \frac{1}{6} = \boxed{}$$

b)



$$\frac{1}{3} + \frac{1}{6} = \boxed{}$$

c)



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

Match the additions that have the same answer.

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

$$\frac{10}{12} + \frac{1}{12}$$

$$\frac{2}{3} + \frac{1}{12}$$

$$\frac{6}{12} + \frac{1}{12}$$

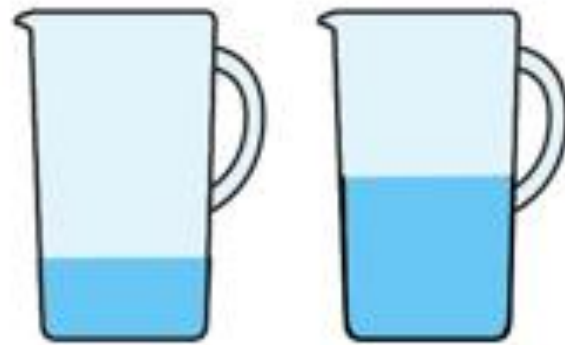
$$\frac{5}{6} + \frac{1}{12}$$

$$\frac{9}{12} + \frac{1}{12}$$

$$\frac{1}{2} + \frac{1}{12}$$

$$\frac{8}{12} + \frac{1}{12}$$

Here are two jugs.



One jug contains $\frac{5}{18}$ l of water.

The other jug contains $\frac{4}{9}$ l of water.

How many litres of water are there altogether?

a) Complete the additions.

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

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

$$\frac{3}{5} + \frac{1}{10} =$$

$$\frac{4}{5} + \frac{1}{10} =$$

$$\frac{1}{16} + \frac{5}{32} =$$

$$\frac{1}{8} + \frac{5}{32} =$$

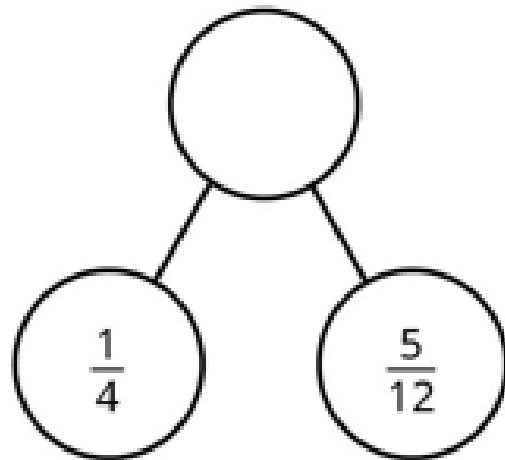
$$\frac{1}{4} + \frac{5}{32} =$$

$$\frac{1}{2} + \frac{5}{32} =$$

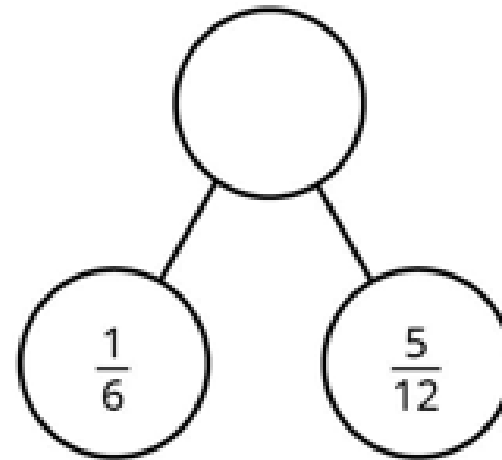
b) Can you spot any patterns? Talk to a partner about it.

Complete the part-whole models.

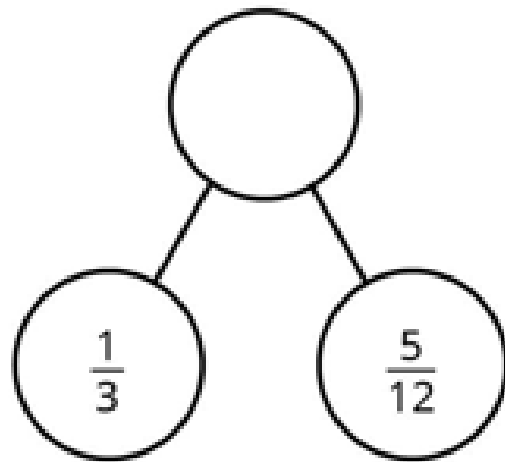
a)



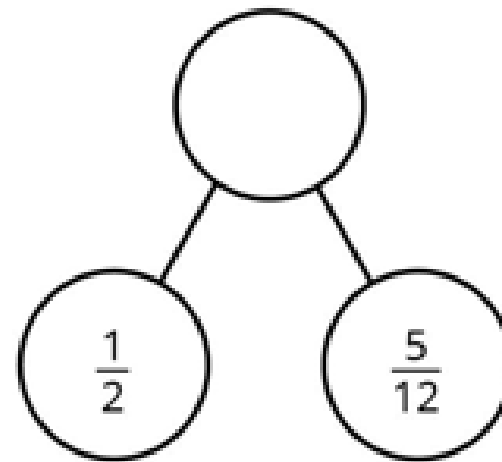
c)





b)



d)




$$\frac{\boxed{}}{8} + \frac{\boxed{}}{16} = \frac{7}{8}$$

What could the missing numerators be?

Give six different possibilities.


$$\frac{\boxed{}}{8} + \frac{\boxed{}}{16} = \frac{7}{8}$$

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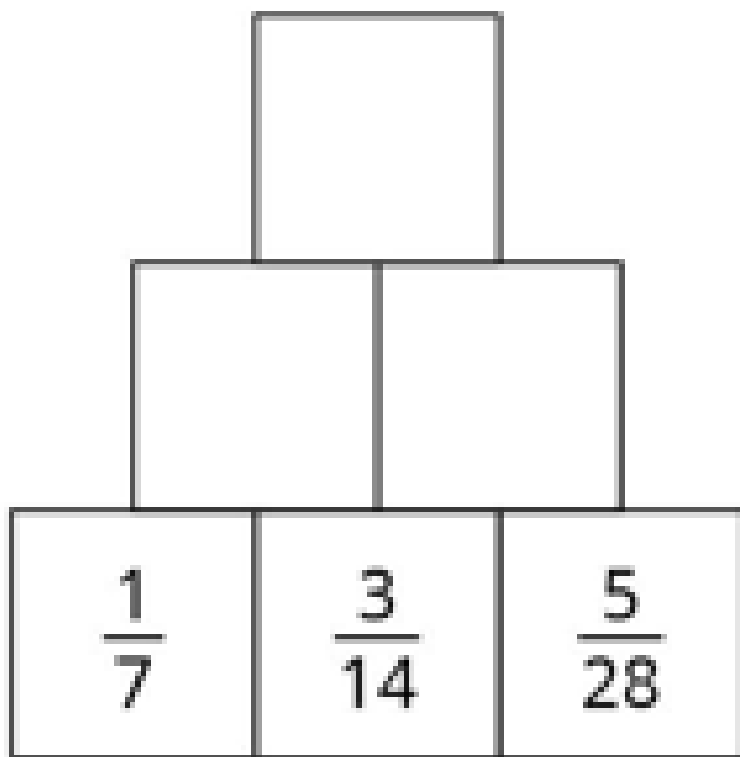
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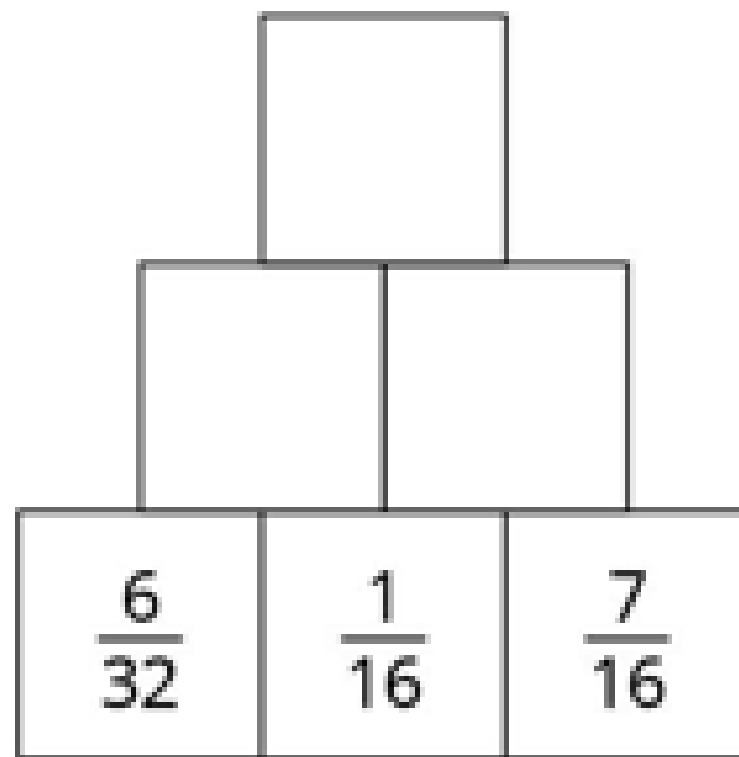
$$\frac{\boxed{}}{8} + \frac{\boxed{}}{16} = \frac{7}{8}$$


Complete the addition pyramids.

a)



b)



WALT: compare fractions less than 1

Write $<$, $>$ or $=$ to compare the fractions.

a) $\frac{7}{9} \bigcirc \frac{4}{9}$

c) $\frac{7}{9} \bigcirc \frac{7}{12}$

b) $\frac{5}{12} \bigcirc \frac{7}{12}$

d) $\frac{3}{10} \bigcirc \frac{3}{23}$

Write $<$, $>$ or $=$ to compare the fractions.

a) $\frac{3}{4} \bigcirc \frac{5}{8}$

c) $\frac{4}{5} \bigcirc \frac{11}{15}$

b) $\frac{5}{12} \bigcirc \frac{2}{6}$

d) $\frac{2}{3} \bigcirc \frac{11}{12}$

Esther and Scott have a bag of marbles.

a) Esther takes $\frac{3}{8}$ of the marbles.

Scott takes $\frac{3}{11}$ of the marbles.

Who has more marbles?