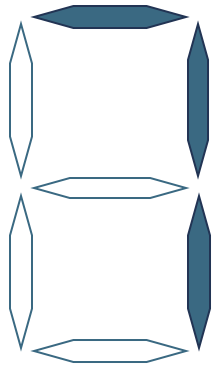


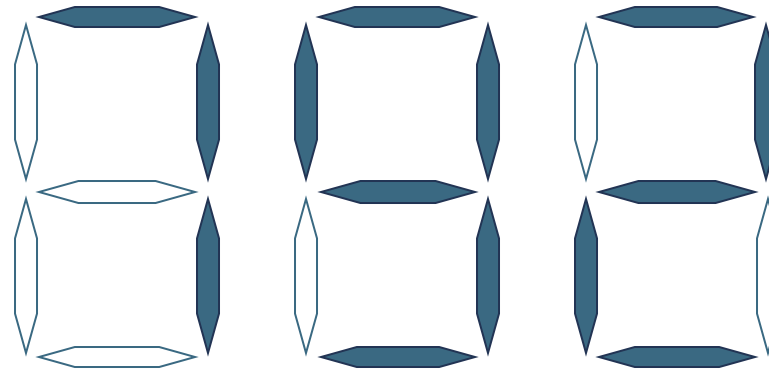
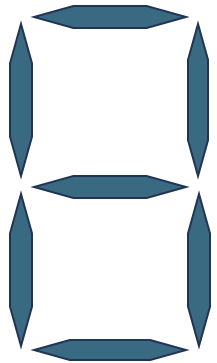
Seven Segments



Calculators use a 7-segment display to show the numbers 0 to 9
7 uses three segments.

8 uses all seven segments.

Create calculations where the solution or answer uses 7, 14 or 21 segments on the display e.g. 792 which uses 14 segments.



A decimal point does not count as a segment.

All the Sevens

Using just four 7s and all the operation keys, can you make all the numbers up to 30?

Can you make them in different ways?

How creative can you be?

Does it help to use

1

 as well?

You could record your solutions in a table.

7

7

7

7

×

÷

+

−

(

)

√

x^2

Target	Solution(s)
1	
2	
3	
4	
...	

7-digit numbers

Choose a starting value then use the operation tiles and brackets to create expressions with:

- a) 7 digits
- b) More than 7 digits
- c) Fewer than 7 digits

e.g. 250

$\times 10^3$

$\div 100$

$\times 10$

Starting values:

10

5,000

250

What other starting value could you use?

$+ 1,000$

$- 1,000$

$\times 1,000$

$\div 1,000$

$\times 100$

$\div 100$

$\times 250$

$\div 250$

$\times 10^3$

$\times 10$

$\div 10$

$\times 10^2$

What is one seventh?

In fractions equal to $\frac{1}{2}$, the denominator is double the value of the numerator.

What do you think will be true about fractions equal to $\frac{1}{7}$?

Turn the digit cards over. Choose two, three or four of them and arrange them to create a fraction that is as close as possible to $\frac{1}{7}$.

Could you use a calculator to check how close you are?

What will you be looking for?

Can you write a generalisation?

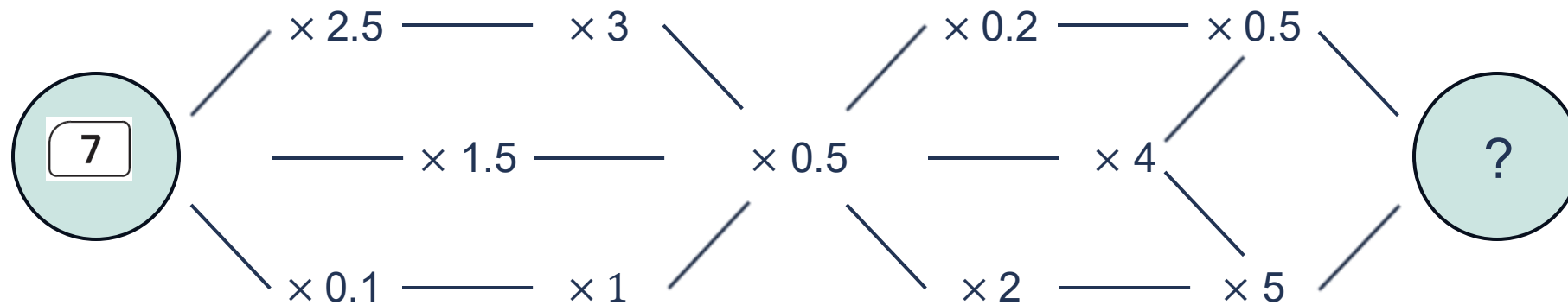
1 2 3 4 5 6 7 8 9

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7 is an a-Maze-ing number!

Start with the number 7 on your calculator.

Find a route through the grid from left to right only visiting each multiplier once.



1. What is the highest outcome?
2. What is the lowest outcome?
3. Can you end on 7?
4. Can you end on 0.7?