

Prerequisite Skills

Lesson objectives

- I know how to evaluate factorials
- I know how to extend Pascal's triangle
- I know how to calculate permutations and probabilities
- I know how to use a tree diagram
- I know how to draw and use a Venn diagram
- I know how to simplify expressions

1.1

Lesson objectives

Teachers' notes

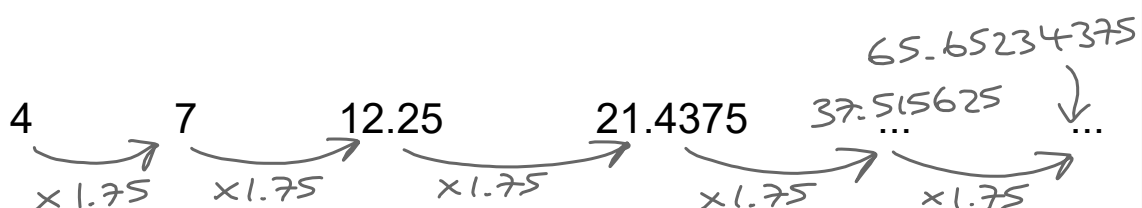
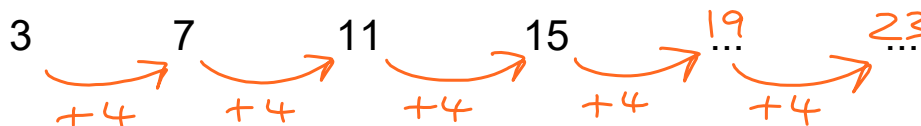
Lesson notes

MHR Page 102 #s 1 - 17

Patterning

Find the link in the sequence that allows you to move from one term to the next one. If it is arithmetic, then subtract the previous term from the current one. If it is geometric, then divide the current term by the previous one.

Example - Find the next two terms of these sequences:



Order of Operations

Use BEDMAS to simplify/evaluate expressions.

If there are fractions, simplify the numerators and denominators before dividing.

If you are raising a fraction to a power, raise the numerator and denominator to the stated power.

If you are left with variables and asked to evaluate, then substitute the given value(s) into the expression.

$$\begin{aligned} \text{Example: } & 5(4 + 6) - 3(7 - 2)^2 \\ & = 5(10) - 3(5)^2 \\ & = 5(10) - 3(25) \\ & = 50 - 75 \\ & = -25 \end{aligned}$$

$$\begin{aligned} & n(n - 3)(n - 5)(n - 7) \quad \text{where } n = 10 \\ & = 10(10 - 3)(10 - 5)(10 - 7) \\ & = 10(7)(5)(3) \\ & = 1050 \end{aligned}$$

Simplifying Expressions

Use FOIL (or the chart) to simplify expressions.

Look to see if there are common factors that can be cancelled out to help simplify.

$$\begin{aligned} \text{Example: } & (y + 2)(y - 5) \\ & = y^2 - 5y + 2y - 10 \\ & = y^2 - 3y - 10 \end{aligned}$$

x	y	-5
y	y ²	-5y
2	2y	-10

$$= y^2 - 3y - 10$$

$$\frac{\cancel{(y + 3)}(y - 4)\cancel{(y + 5)}}{\cancel{(y + 3)}\cancel{(y + 5)}} = y - 4$$