4.2) Quartic graphs

## Your turn

Sketch the graph of:

$$
y=(x+3)(x+4)(x-3)(x-4)
$$

Sketch the graph of:

$$
y=(x+1)(x+2)(x-1)(x-2)
$$



Worked example
Sketch the graph of:

$$
y=x(x-3)^{2}(2-x)
$$

## Your turn

Sketch the graph of:

$$
y=x(x+2)^{2}(3-x)
$$



## Your turn

Sketch the graph of:

$$
y=(x+2)^{2}(x-4)^{2}
$$

Sketch the graph of:

$$
y=(x-1)^{2}(x-3)^{2}
$$



## Your turn

Sketch the graph of:

$$
y=x(x-4)(x+5)(x+6)
$$

Sketch the graph of:

$$
y=x(x+1)(x-2)(x-3)
$$



Sketch the graph of:

$$
y=(x+4)^{2}(x-5)(6-x)
$$

Sketch the graph of:

$$
y=(x-2)^{2}(x+1)(3-x)
$$



## Your turn

Sketch the graph of:

$$
y=(x-2)(x+2)^{3}
$$

Sketch the graph of:

$$
y=(x+1)(x-1)^{3}
$$



Sketch the graph of:

$$
y=(x+3)^{4}
$$

Sketch the graph of:

$$
y=(x-2)^{4}
$$



## Your turn

Sketch the graph of:

$$
y=x^{2}(x+2)(x-2)
$$

Sketch the graph of:

$$
y=x^{2}(x+1)(x-1)
$$



## Your turn

Sketch the graph of:

$$
y=-(x-4)(x+2)^{3}
$$

Sketch the graph of:

$$
y=-(x+1)(x-3)^{3}
$$



