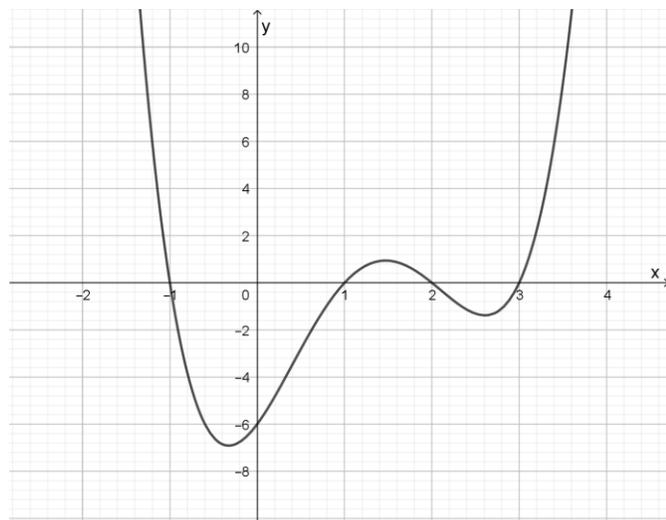
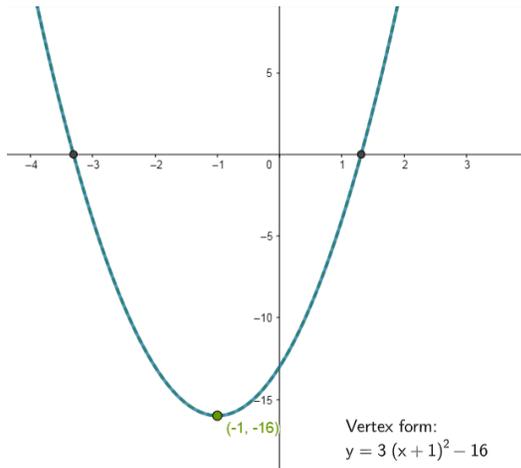


12 FOM Unit 3 (Polynomials, Exponential and Logarithmic Functions) Classroom Assessment #1

Name:

This is a 100% assignment: complete & correct until all parts are correct.

Use algebra or technology to find the roots and y intercept of this parabola, correct to 2 d.p.



Is this a graph of a quartic or a cubic?

Describe the end behavior of this graph.

What is the constant term?

What are the zeros of this polynomial?

Write the polynomial in factored form (given that the leading coefficient is 1):

Use technology or otherwise to write the function in standard form (expand brackets):

Evaluate $f(4)$

Solve $f(x) = 2$

Let $f(x) = -(x - 1)(x - 2)(x - 3)$

What are the zeros of this polynomial?

What is the constant term?

Describe the end behavior of the graph of this polynomial.

Let $f(x) = 2x^5 - 3x^2 + 7$

What is the degree of this polynomial?

What is the dominant term?

What is the leading coefficient?

When the graph $y = f(x)$ is drawn, what is the y intercept?

What is the end behavior of this graph?

What are the possible numbers of turning points for this degree of polynomial?

What are the possible number of zeros for this degree of polynomial?

Graph the function using technology and state each turning point and its coordinates; each zero and its coordinates.

(from page 408 in the textbook)

6. The world-record time for the men's 100 m sprint was 10.00 s in 1960. The table below shows the world-record times since 1960.

Years after 1960	0	8	23	31	36	39	45	48	49
Time (s)	10.00	9.95	9.93	9.86	9.84	9.79	9.77	9.72	9.58

- Use technology to plot the points. (Horizontal: Years after 1960)
- Model the data with a polynomial degree 1 (a straight line).
- What is the slope of this line, and what does it represent?

In 2007, Asafa Powell from Jamaica accomplished a world-record time on September 9, 2007.

- What time does the model (the equation of the line) give for the year 2007?
- Research his actual time, and compare the model with his real time.