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7 February 2018
Homework: Pretest review Name:

1. Let $f(x) = x^2 - 2x - 3$ and $g(x) = -2x + 1$

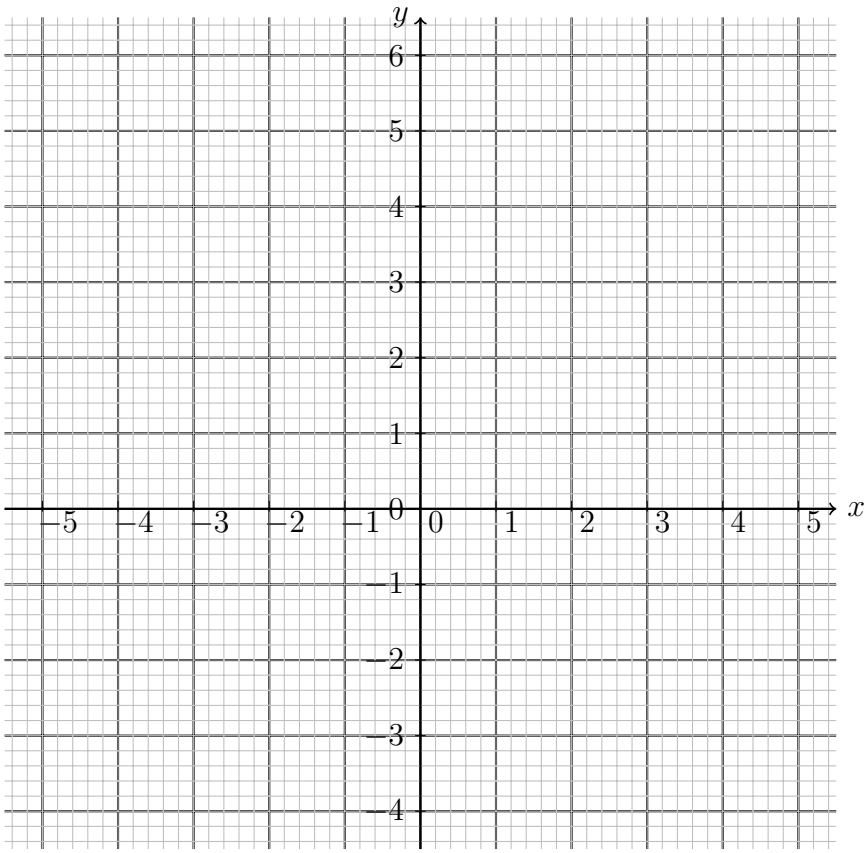
   (a) Rewrite f in vertex form and state the vertex as an ordered pair.

   (b) Factor the function f and write down its roots.

   (c) Graph the function f, labeling it. Mark the intercepts and graph the axis of symmetry as a dotted line, labeling it with its equation.

   (d) Graph g and label it with its name or equation.

   (e) Mark the intersections of f and g as ordered pairs.



BECA / Dr. Huson / IB Math SL
7 February 2018
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Simplify, leaving no negative or fractional exponents.

2. $7x^{-2}y \times 3x^3y^{-1}$

3. $\sqrt[5]{a^6b^{10}}$

4. $x^{\frac{1}{2}} \times (\frac{x}{z^6})^{\frac{1}{2}}$

5. $(a^6b^4)^{\frac{1}{3}} \div a^{-3}b^{\frac{4}{3}}$

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7 February 2018
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6. Let $f(x) = \sqrt{x} - 16$ and $g(x) = (x-4)^4$

   (a) Find $(f \circ g)(x)$

   (b) Find $f^{-1}(x)$

7. The function $f(x) = e^x$ is shown on the graph. Sketch $g(x) = -f(x-4)+3$. Plot and label the asymptotes.