BECA / Huson / 11.1 IB Math SL Name:
13 November 2017

Quiz Corrections: Exponents and radicals

In addition to correcting your quiz, work these problems. Answer in the space provided.

Simplify, leaving no negative or fractional exponents.

1. $5x^{-3}y \times 2x^3y^{-3}$

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

3. $x^{\frac{3}{2}} \times (\frac{x}{z^4})^{\frac{1}{2}}$

4. $(a^6b^2)^{\frac{1}{2}} \div a^{-2}b$

5. Let $f(x) = \frac{1}{2}x^2 + x - 4$ and $g(x) = -x - \frac{3}{2}$

(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.

(f) Select one of the solutions and show that it satisfies the system by substituting it into both functions.