

**Test 6 (Lessons 11–12): Radical Expressions (using real numbers)****Simplify. Write answers in radical form.**

1)  $\sqrt{3}(2\sqrt{3} - \sqrt{5})$

2)  $\sqrt[5]{15a^{11}b^4c^{20}}$

3)  $(3x^7y^{10}z^9)^{\frac{1}{2}}$

4)  $(\sqrt[3]{9x^2yz^4})(\sqrt[3]{12xyz^2})$

- 5) The area of a right triangle is 36 square inches. The base of the triangle is  $4\sqrt{6}$  inches long. What is the height of the triangle? Show your work.

**Simplify. Rationalize all denominators. Show your work.**

**6)**  $\frac{5\sqrt{2}}{\sqrt{12}}$

**7)**  $\frac{4}{2 + \sqrt{11}}$

**8)**  $7\sqrt{8}(3\sqrt{2} + 1) - 2\sqrt{2}$

**9)**  $-\sqrt{15}(4\sqrt{5} - 8\sqrt{3})$

- 10)** The area of a rectangle is  $29 - 7\sqrt{17}$  square yards. The length of the rectangle is  $4 - \sqrt{17}$  yards. Find the width of the rectangle. Show your work.