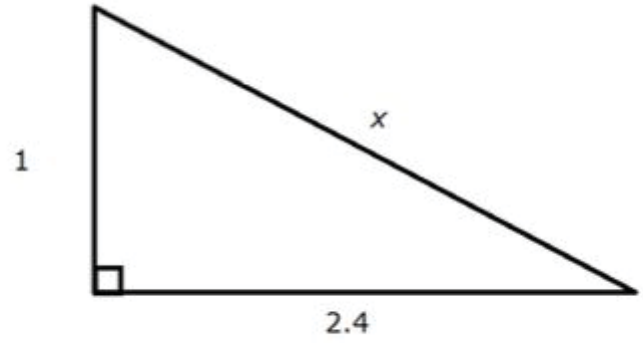
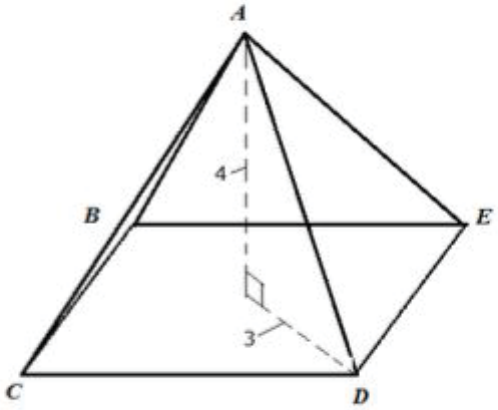
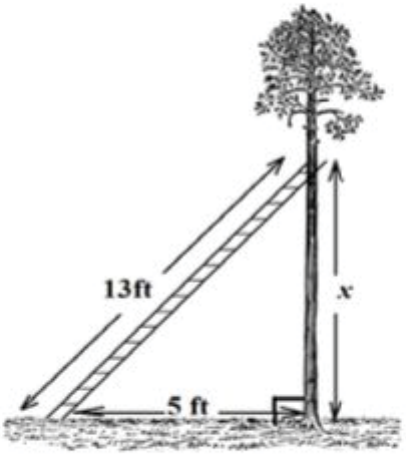
Name _____ Period _____ Date _____

Geometry: Pythagorean Theorem A

1	**Example Stem 1:** A right triangle is shown.  Enter the value of *x*.
2	**Example Stem 2:** A right square pyramid is shown. The height of the pyramid is 4 units. The distance from the center of the base of the pyramid to vertex D is 3 units, as shown.  Enter the length of segment *AD*, in units.

SBAC Math & Geometry: Pythagorean Theorem Practice A

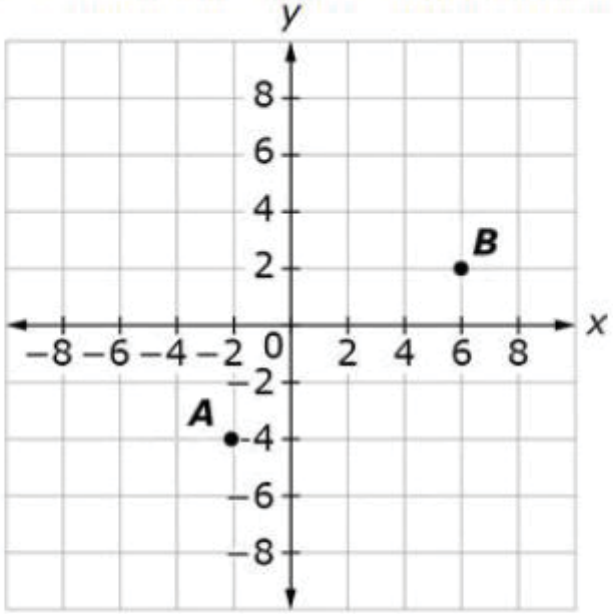
Name _____ Period _____ Date _____

3	**Example Stem 3:** A 13-foot ladder is leaning on a tree. The bottom of the ladder is on the ground at a distance of 5 feet from the base of the tree. The base of the tree and the ground form a right angle as shown.  Enter the distance between the ground and the top of the ladder, x, in feet.
4	**Example Stem:** The table shows the side lengths for some triangles. Determine whether the side lengths define a right triangle. Select Yes if it is a right triangle. Select No if it cannot be a right triangle.

Triangle Side Lengths	Yes	No
4 cm, 5 cm, 8 cm		
8 ft, 10 ft, 16 ft		
21 in, 28 in, 35 in		

SBAC Math 8 Geometry: Pythagorean Theorem Practice A

Name _____ Period _____ Date _____

5	**Example Stem 1:** A coordinate plane is shown with labeled points.  What is the distance between point *A* and point *B* on the coordinate plane? A. 5 B. 6 C. 10 D. 14
6	**Example Stem 2:** What is the distance between points (5, 2) and (—3, —4) on the coordinate plane? A. 5 B. 6 C. 10 D. 14

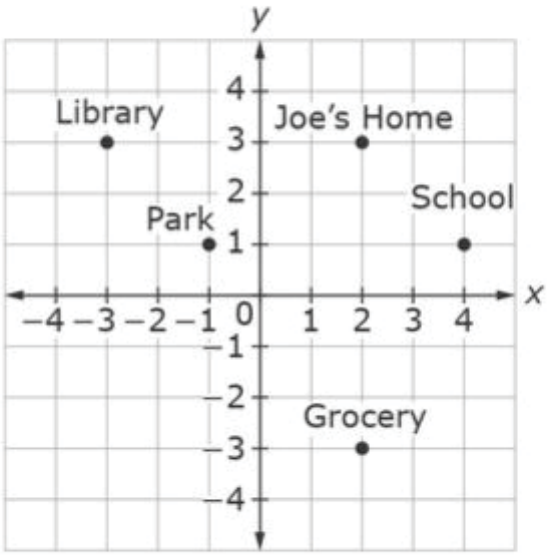
SBAC Math 8 Geometry: Pythagorean Theorem Practice A

Name _____ Period _____ Date _____

7

Example Stem: The points show different locations in Joe's town.
Each unit represents 1 mile.

Places in Joe's Town



What is the distance, in miles, between Joe's Home and the Park?
Round your answer to the nearest tenth.

Name _____ Period _____ Date _____

Expressions & Equations: Exponents

1	**Example Stem:** Select **all** expressions equivalent to $(4^5 \bullet 4^{-3})^{-2}$. A. $\frac{1}{256}$ B. 256 C. $4^{-10} \bullet 4^6$ D. $4^3 \bullet 4^{-5}$
2	**Example Stem:** Enter the value of n that makes the equation $4^5 \bullet 4^n = 4^{15}$ true.
3	**Example Stem 1:** Select **all** possible values for x that solve the equation $x^2 = 200$. A. $10\sqrt{20}$ B. $100\sqrt{2}$ C. $10\sqrt{2}$ D. $\sqrt{200}$

SBAC MATH 8 Expressions & Equations: Exponents Practice A

Name _____ Period _____ Date _____

4	**Example Stem 2:** Select **all** possible values for x in the equation $x^2 = 200$. A. $10\sqrt{2}$ B. $10\sqrt{20}$ C. $20\sqrt{10}$ D. $-10\sqrt{2}$ E. $-10\sqrt{20}$ F. $-20\sqrt{10}$
5	**Example Stem:** Select **all** possible values for x in the equation, $x^3 = 250$. A. $5\sqrt[3]{2}$ B. $\sqrt[3]{250}$ C. $5\sqrt[3]{10}$ D. $25\sqrt[3]{10}$
6	**Example Stem:** How many times larger than 2×10^3 is 6×10^6? A. 3×10^2 B. 3×10^3 C. 6×10^6 D. 12×10^9
7	**Example Stem 1:** Approximately 7.5×10^5 gallons of water flow over a waterfall each second. There are 8.6×10^4 seconds in 1 day. Enter the approximate number of gallons of water that flow over the waterfall in 1 day. A. 6.45×10^{21} B. 6.45×10^{20} C. 6.45×10^{10} D. 6.45×10^9

SBAC MATH 8 Expressions & Equations: Exponents Practice A

Name _____ Period _____ Date _____

8 CLAIM 2	**Example Stem 2:** Which value is closest to $(6 \times 10^6) + (2 \times 10^4)$? A. 8.0×10^{10} B. 8.0×10^6 C. 6.0×10^{10} D. 6.0×10^6
9 CLAIM 3	**Example Item 3D.2b (Grade 8)** Primary Target 3D (Content Domain EE), Secondary Target 1B (CCSS 8.EE.A), Tertiary Target 3C Maggie claims that when you raise a whole number to a power, the result is always a greater number. That is, $s^n > s$. For example: $4^3 > 4$ $5^4 > 5$ $10^9 > 10$ Maggie's claim is **not** true for all values of n and s. For what values of n and s is Maggie's claim true? Complete the inequalities. $s >$ [ ] $n >$ [ ]

Name _____ Period _____ Date _____

Expressions & Equations: Exponents B

1

1808

Approximately 7.5×10^5 gallons of water flow over a waterfall each second. There are 8.6×10^4 seconds in 1 day. Select the approximate number of gallons of water that flow over the waterfall in 1 day.

(A) 6.45×10^{21}

(B) 6.45×10^{20}

(C) 6.45×10^{10}

(D) 6.45×10^{9}