

Name: \_\_\_\_\_  
Algebra 1

Date: \_\_\_\_\_  
Band: \_\_\_\_\_

## Unit 10: Radical Expressions & Equations Performance Tasks

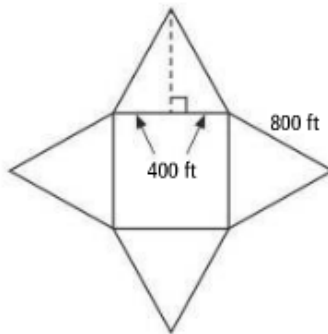
*Instructions:* Choose one performance task. Write all your work on a separate clean piece of paper and attach it to this page.

### Big Idea: Equivalence

Radical expressions can be represented many ways. To simplify a square root, factor out perfect squares from the radicand.

### Performance Task 1

The Great Pyramid of Cheops in Egypt has a square base with side length of 800 ft. Its triangular faces are almost equilateral.



- Explain how to find the height of each triangle in the diagram above. What is the height of each triangle?
- Explain how to find the height of the pyramid. What is the height of the pyramid? Write the height as a simplified radical.

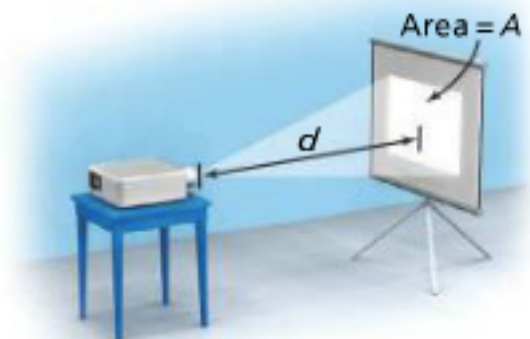
### Big Idea: Solving Equations and Inequalities

To isolate the variable in a radical equation, first locate the radical, and then square both sides.

### Performance Task 2

*Solve. Show all of your work and explain your steps.*

The distance  $d$  in feet of a certain projector from a screen is given by  $d = 1.2\sqrt{A}$ , where  $A$  is the area of the projected image in square feet. Suppose you move the projector from its current position 8 ft from the screen to a new position 12 ft from the screen. By how much does the area of the image increase?



**Performance Task Assessment: Analytic Holistic Scoring****Developing Autonomy—The student**

3	Persevered to complete the problem without help
2	Completed most of the problem without help
1	Needed key hints to complete the problem
0	Needed extensive guidance to work the problem

**The Solution Process—The student's work showed**

3	A complete and appropriate solution process
2	An appropriate solution process that is almost complete
1	An appropriate process that is partially complete
0	An inappropriate process or no evidence of a process

**The Conclusion/Answer—The student's answer is an**

3	Accurate conclusion, supported by valid evidence and reasons, appropriate to this problem and context
2	Inaccurate but logical conclusion, supported by evidence and reasoning but incorrect due to a minor factual error (in details of problem, in computation, recall a formula, etc.) or minor mistake in reasoning
1	Inaccurate but logical conclusion that overlooks, or gets wrong significant facts (about the problem, the rule, computation, etc.)
0	Inappropriate conclusion: not supported by facts and logic, or there is no conclusion

**Teacher Comments:**