Name:_____ Date:_____
Geometry Band:_____

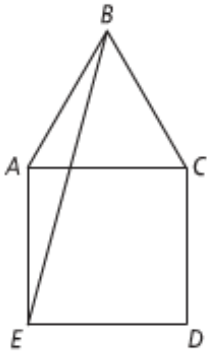
Unit 7: Right Triangles & Trigonometry Performance Tasks

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

Big Idea: Measurement
You can use the Pythagorean Theorem or trigonometric ratios to find side lengths or angle measurements of a right triangle.

Performance Task 1

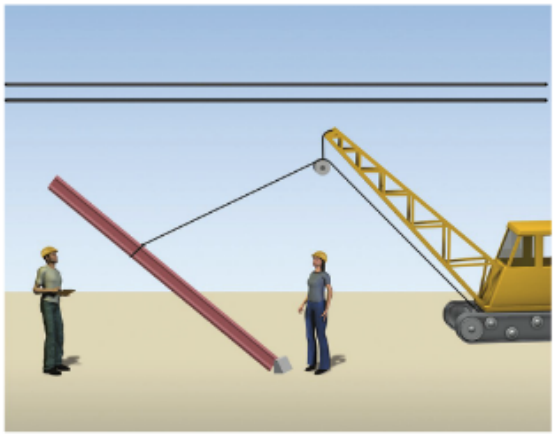
The diagram below shows equilateral ΔABC sharing a side with square $ABDE$. The square has side lengths of 4. What is BE? Justify your answer.



Big Idea: Similarity
You can use trigonometric ratios to find the lengths of the sides of right triangles.

Performance Task 2

A construction crew wants to hoist a heavy beam so that it is standing up straight. They tie a rope to the beam, secure the base, and pull the rope through a pulley to raise one end of the beam from the ground. When the beam makes an angle of $40°$ with the ground, the top of the beam is 8 ft above the ground.



The construction site has some telephone wires crossing it. The workers are concerned that the beam may hit the wires. When the mean makes an angle of $60°$ with the ground, the wires are 2 ft above the top of the beam. Will the beam clear the wires on its way to standing up straight? Explain.

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: