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$\qquad$

Find the geometric mean for each pair of numbers.

1. 5 and 20
2. $\frac{5 \sqrt{3}}{2}$ and $\frac{\sqrt{3}}{2}$

Use the following diagram. Find $x, y, z$ without using the Pythagorean Theorem.
3. Altitude $\mathrm{x}=$

4. $\operatorname{Leg} \mathrm{y}=$
5. $\operatorname{Leg} \mathrm{z}=$
6. Does $\sqrt{3}, \sqrt{8}, \sqrt{11}$ constitute a Pythagorean triple? Why or why not?
7. Your local bakery is selling special holiday pies for Thanksgiving dinner. Your family can order the small $10^{\prime \prime}$ diameter pumpkin pie for $\$ 3.00$ or the larger $20^{\prime \prime}$ diameter pumpkin pie for $\$ 9.00$. Using your acute geometric skills, you detect that one pie is undoubtedly the better deal. Explain using math!

