

Answers to: IV. Roofing (pitch, snow, wind)

- A. 20 feet/30feet or 8 inches horizontal per 1 foot vertical
- B. Pitch = $1/3$
- C. Approximately 33.7 degrees
- D. 27 pounds per square foot
- E. $27\cos(33.7^\circ)$ or approximately 22.5 pounds per square foot
- F. $27\cos(14^\circ)$ or approximately 26.2 pounds per square foot
- G. Pitch $1/3$
- H. $70 \sin(33.7^\circ)$ or approximately 38.9 mph
- I. $70 \sin(14^\circ)$ or approximately 16.9 mph
- J. Pitch $1/8$
- K. Weight of roofing materials, type of roof (shingle or metal), drainage on roof, wind lifts, winds in other directions, likelihood of tornado or earthquakes, climate.