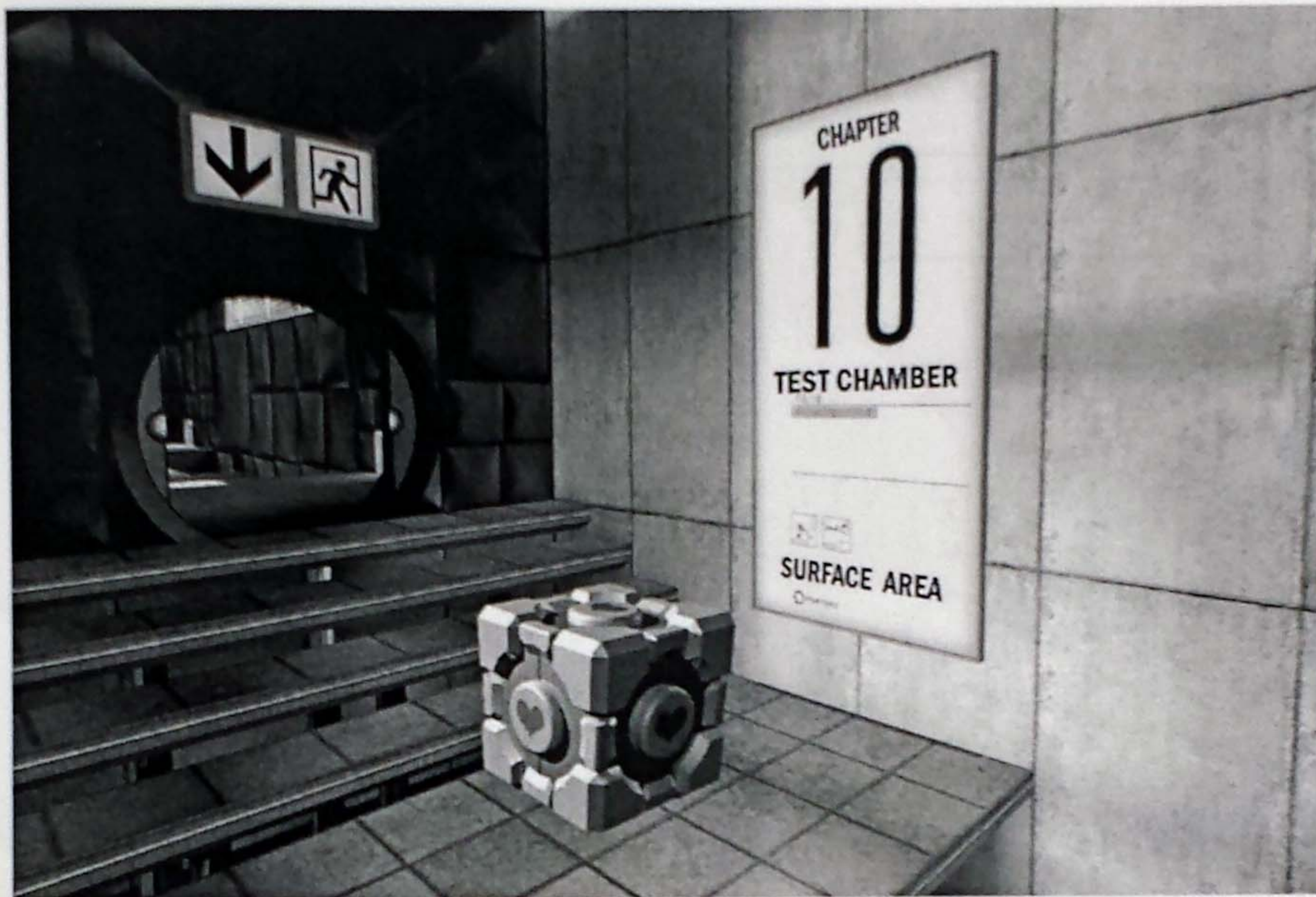
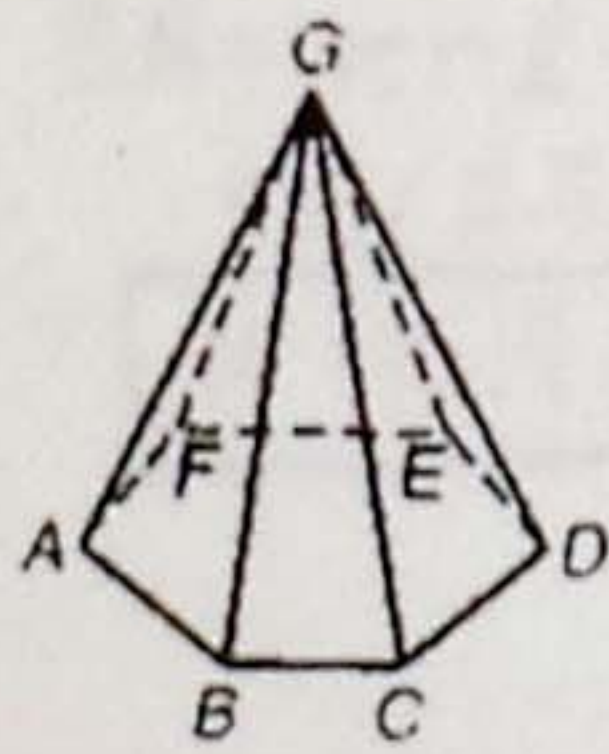


Key

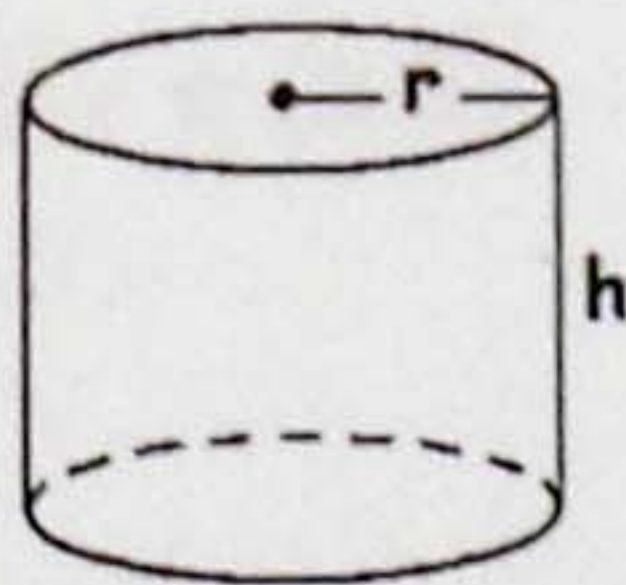


Part 1 (These will be multiple choice, but you will be required to show work)

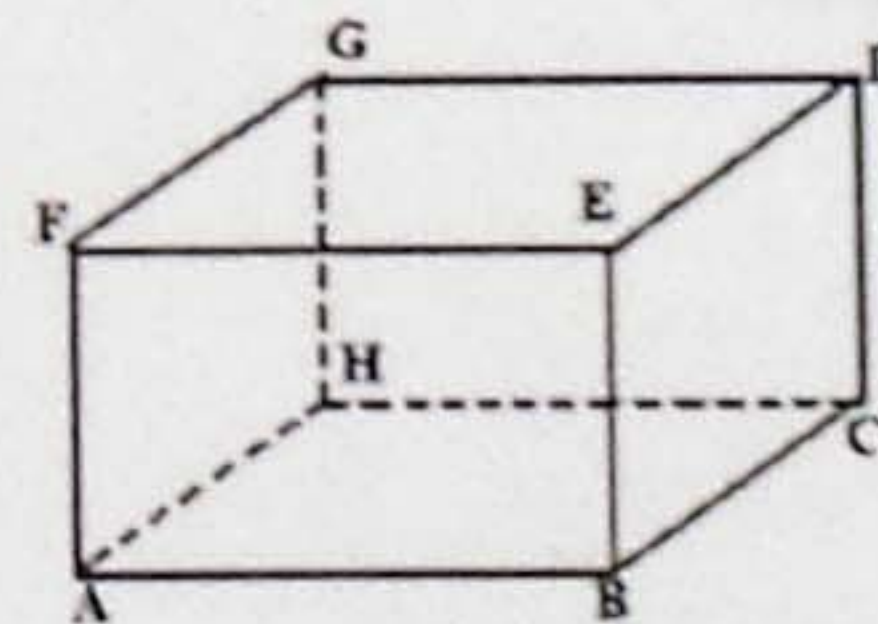
1. Name the vertices: (NO WORK)



A, B, C, D, E, F, G



none

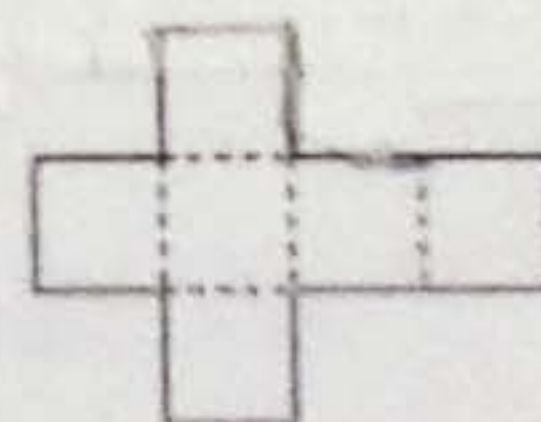
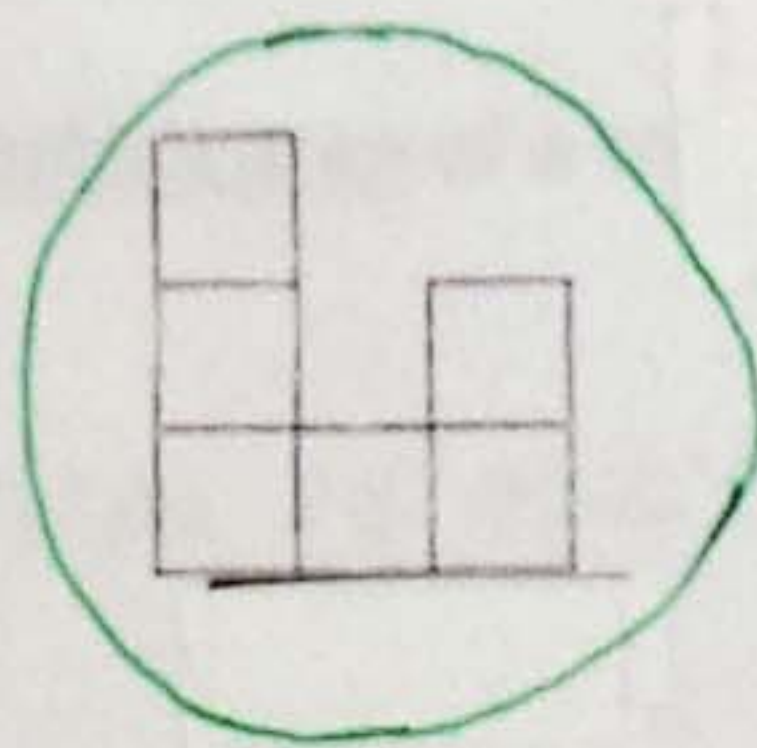
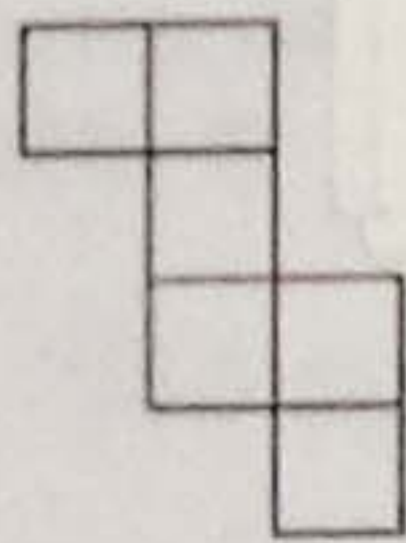


A, B, C, D, E, F, G, H

2. What is the classification of a three dimensional figure if the base is hexagonal and the other faces are triangular? (NO WORK)

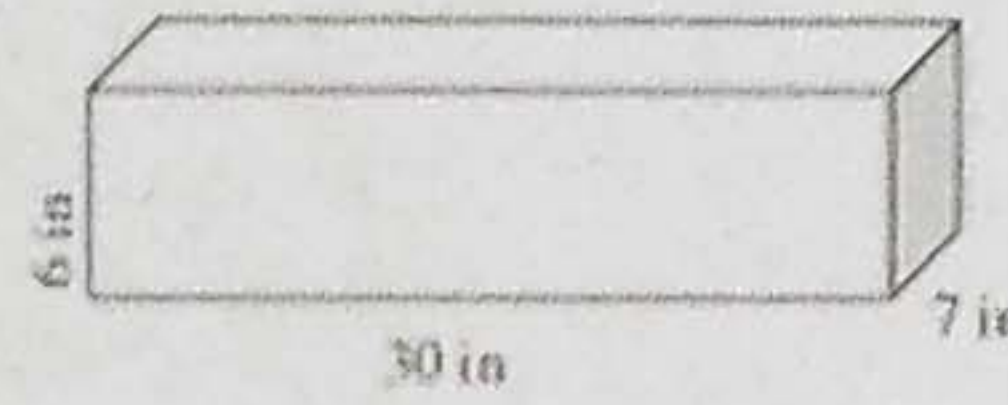
hexagonal pyramid

3. Which of these shapes CANNOT be folded to form a cube? (NO WORK)



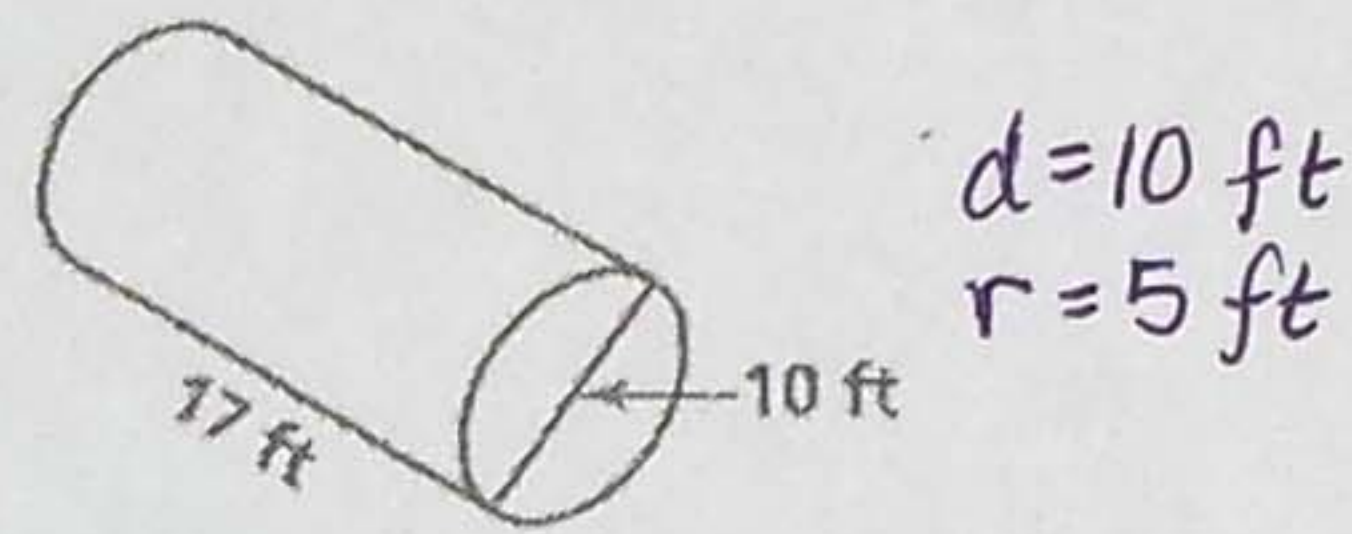
4. What is the lateral area of the rectangular prism? (assume the 30 x 7 side is the base)

$$\begin{aligned}
 LA &= Ph \\
 &= [(2 \cdot 30) + (2 \cdot 7)](6) \\
 &= (60 + 14)(6) \\
 &= 444 \text{ in}^2
 \end{aligned}$$



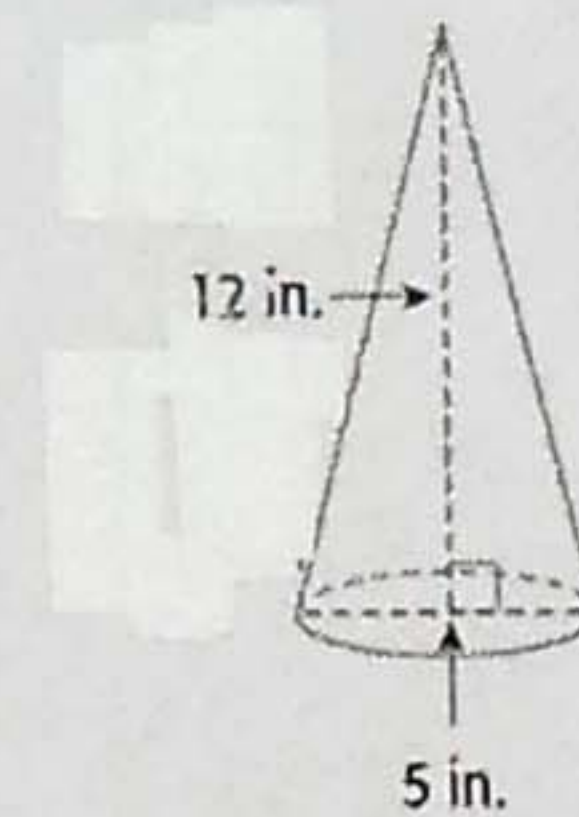
5. What is the surface area of the cylinder?

$$\begin{aligned}
 SA &= (2\pi r)(h) + 2(\pi r^2) \\
 &= (2\pi 5)(17) + 2(\pi 5^2) \\
 &= 170\pi + 50\pi \\
 &= 220\pi \\
 &\approx 691.15 \text{ ft}^2
 \end{aligned}$$



6. What is the surface area of the right cone?

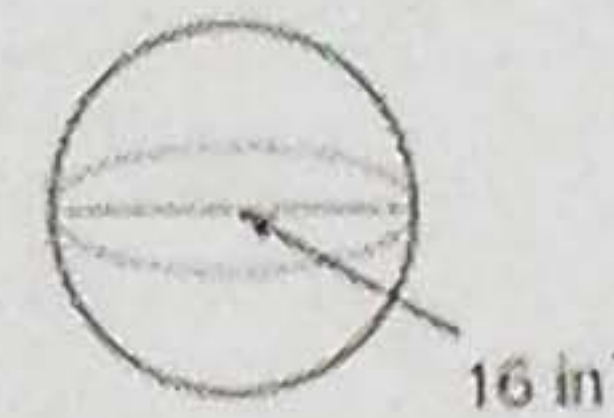
$$\begin{aligned}
 SA &= \pi r l + \pi r^2 \\
 &= \pi(2.5)(\sqrt{150.25}) + \pi(2.5)^2 \\
 &\approx 115.91 \text{ in}^2
 \end{aligned}$$



$$\begin{aligned}
 d &= 5 \text{ in} \quad r = 2.5 \text{ in} \\
 2.5^2 + 12^2 &= l^2 \\
 l^2 &= 150.25 \\
 l &= \sqrt{150.25}
 \end{aligned}$$

7. What is the surface area of the sphere?

$$\begin{aligned}
 SA &= 4\pi r^2 \\
 &= 4\pi(8^2) \\
 &= 256\pi \\
 &\approx 804.25 \text{ in}^2
 \end{aligned}$$



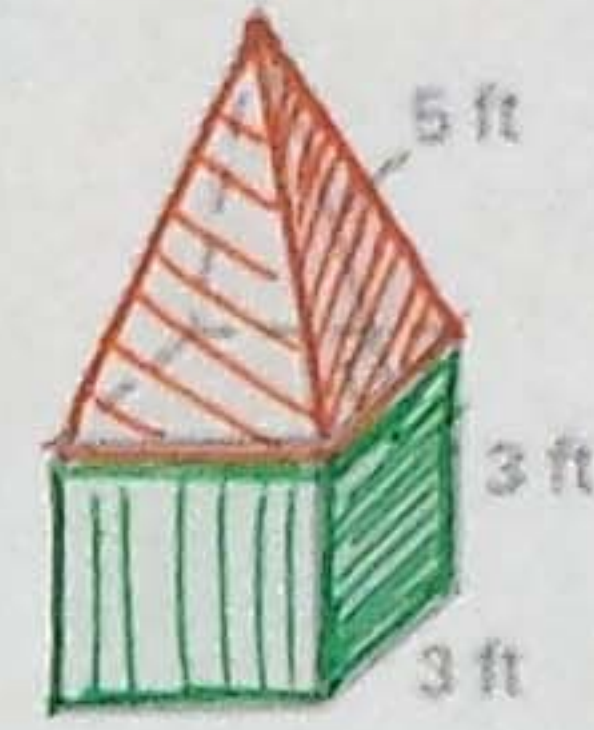
$$d = 16 \text{ in} \quad r = 8 \text{ in}$$

8. What is the effect on the surface area of a triangular prism if all dimensions are multiplied by 4?

The surface area is multiplied by 4^2 or 16.

9. What is the surface area of the composite figure?
 (The figure is a cube with a pyramid on top)

$$\begin{aligned}
 LA_{\text{pyramid}} &= \frac{1}{2} P L \\
 &= \frac{1}{2} (3 \cdot 4) (5) \\
 &= 30 \text{ ft}^2 \\
 LA_{\text{cube}} &= P h + B \\
 &= (3 \cdot 4) (3) + (3^2) \\
 &= 45 \text{ ft}^2
 \end{aligned}
 \left. \vphantom{\begin{aligned} LA_{\text{pyramid}} \\ LA_{\text{cube}} \end{aligned}} \right\} SA_{\text{total}} = 30 + 45 = 75 \text{ ft}^2$$



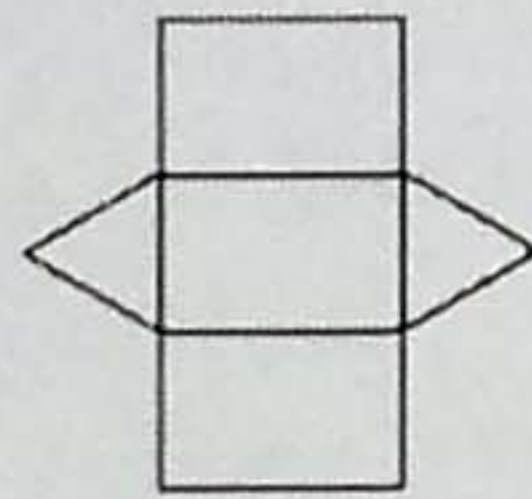
Part 2 (These will be regular questions, and you will be required to show work)

10. Write the number of vertices, edges and faces on a pentagonal pyramid.
 Draw a diagram.

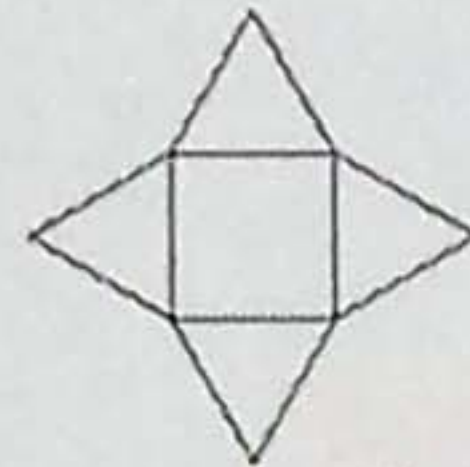


VERTICES: 6
 EDGES: 10
 FACES: 6

11. Give the name of the figure represented by the given net.



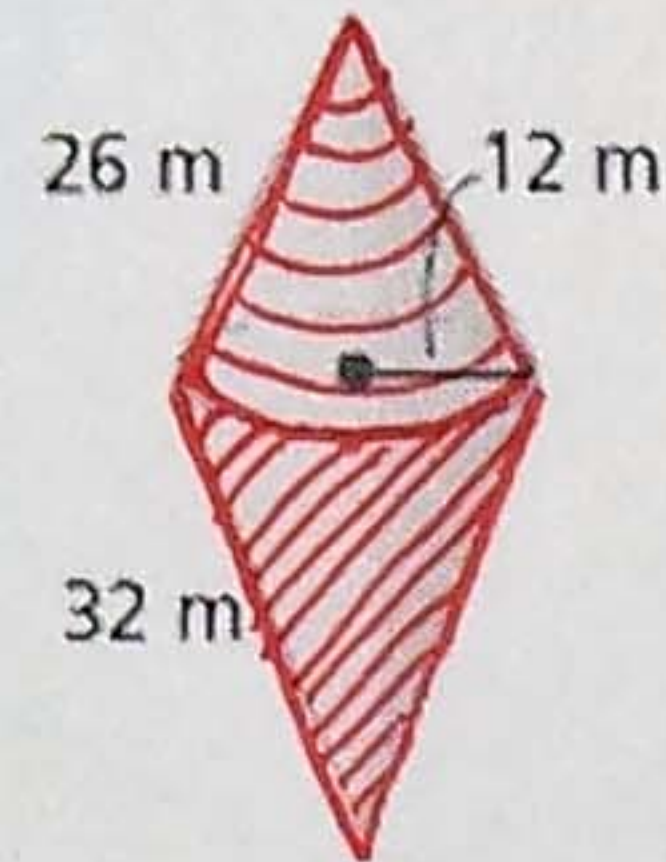
triangular prism



rectangular pyramid OR square pyramid

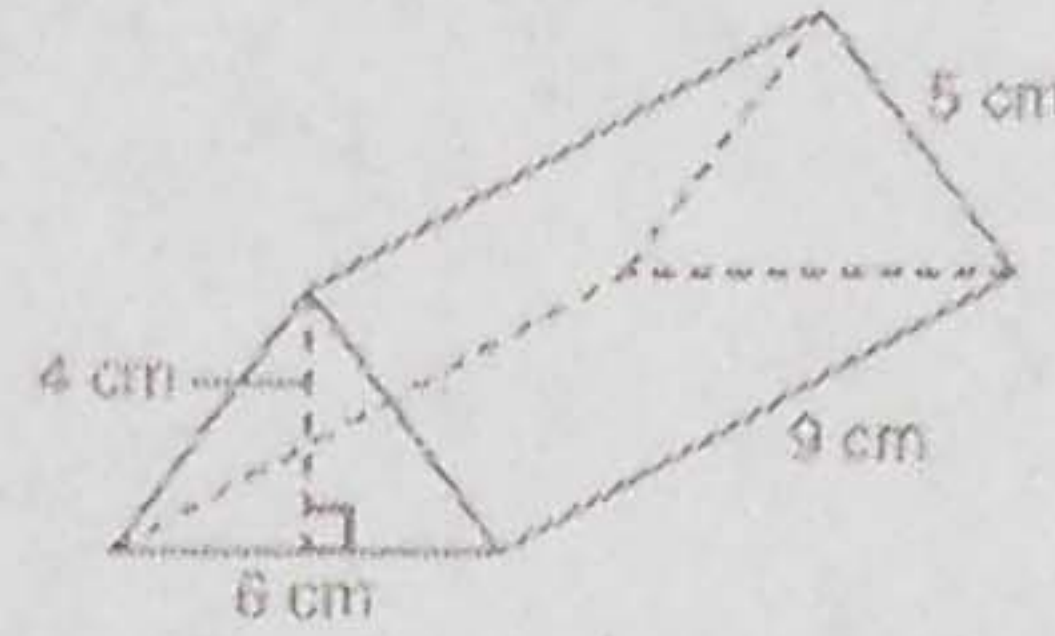
12. Find the surface area of the composite figure below (two cones)

$$\begin{aligned}
 LA_{\text{cone top}} &= \pi r l \\
 &= \pi (12)(26) \\
 &= 312\pi \\
 LA_{\text{cone bottom}} &= \pi r l \\
 &= \pi (12)(32) \\
 &= 384\pi
 \end{aligned}
 \left. \vphantom{\begin{aligned} LA_{\text{cone top}} \\ LA_{\text{cone bottom}} \end{aligned}} \right\} SA_{\text{total}} = 312\pi + 384\pi = 696\pi \approx 2186.55 \text{ m}^2$$



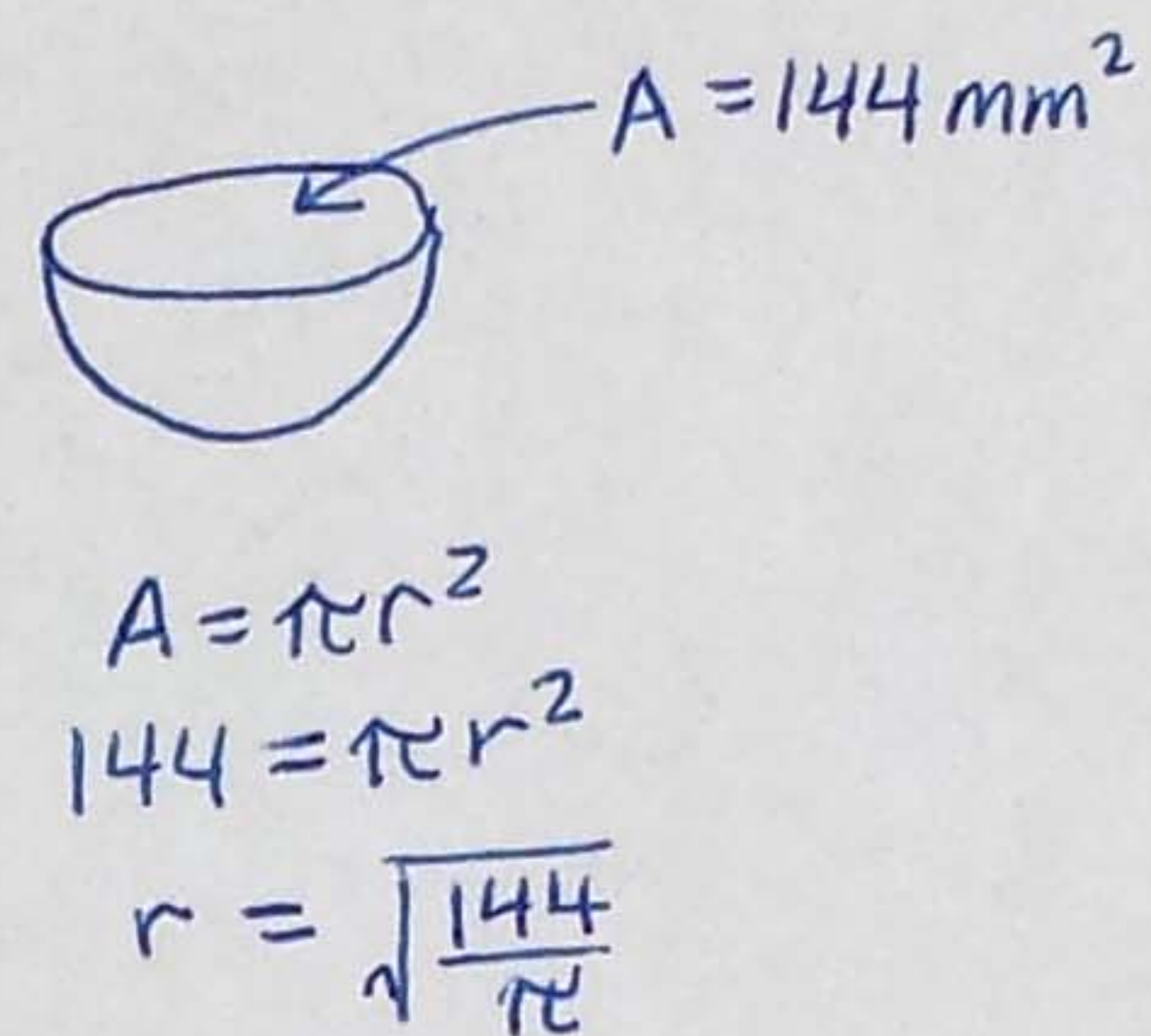
13. Find the lateral area and surface area of the regular triangular prism.
 (height = 4cm, slant height = 5cm, side length = 6cm, length of figure = 9cm)

$$\begin{aligned}
 LA &= Ph \\
 &= (5+5+6)(9) \\
 &= 144 \text{ cm}^2
 \end{aligned}
 \qquad
 \begin{aligned}
 SA &= LA + 2B \\
 &= 144 + 2\left(\frac{1}{2} \cdot 4 \cdot 6\right) \\
 &= 168 \text{ cm}^2
 \end{aligned}$$



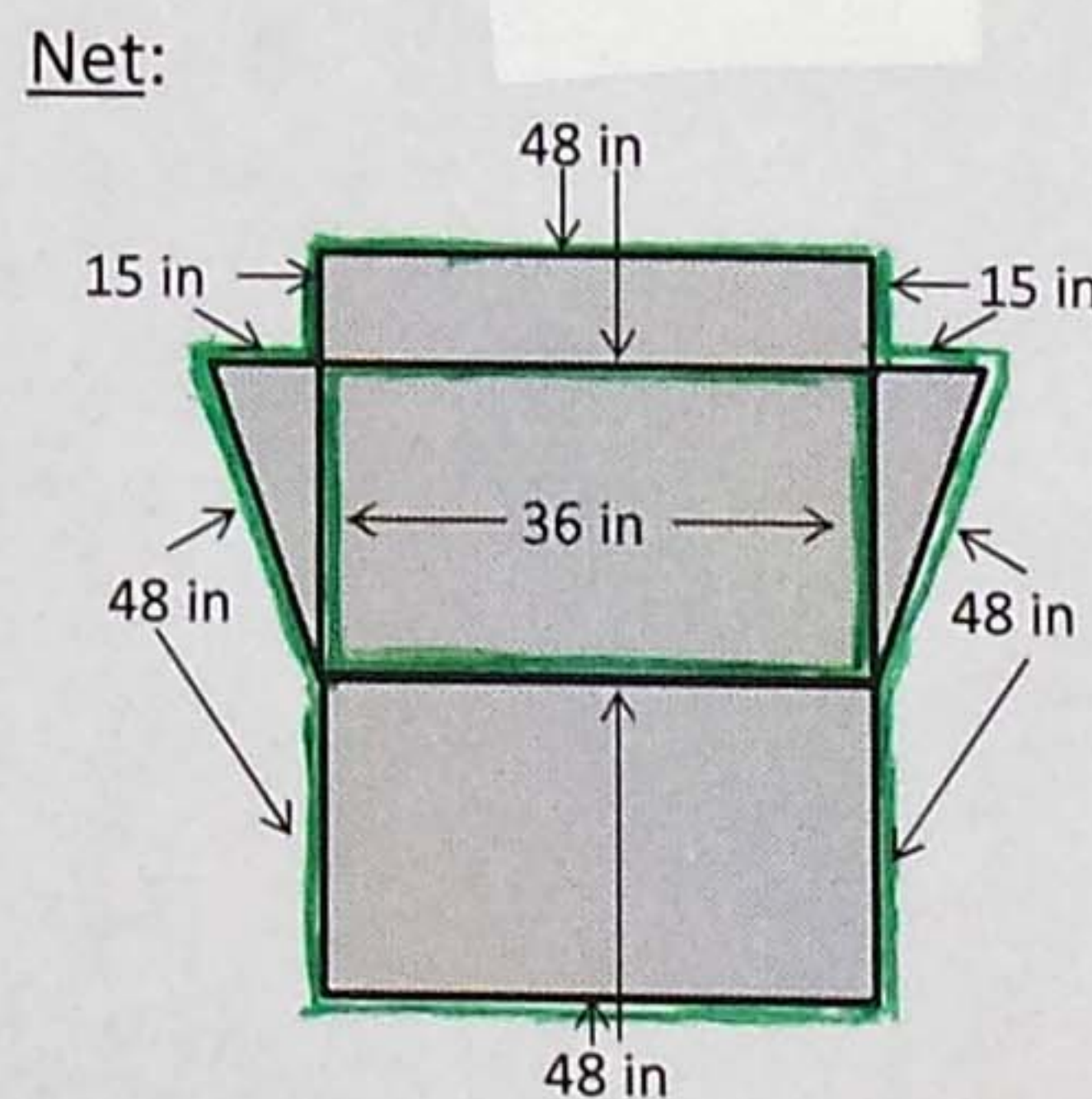
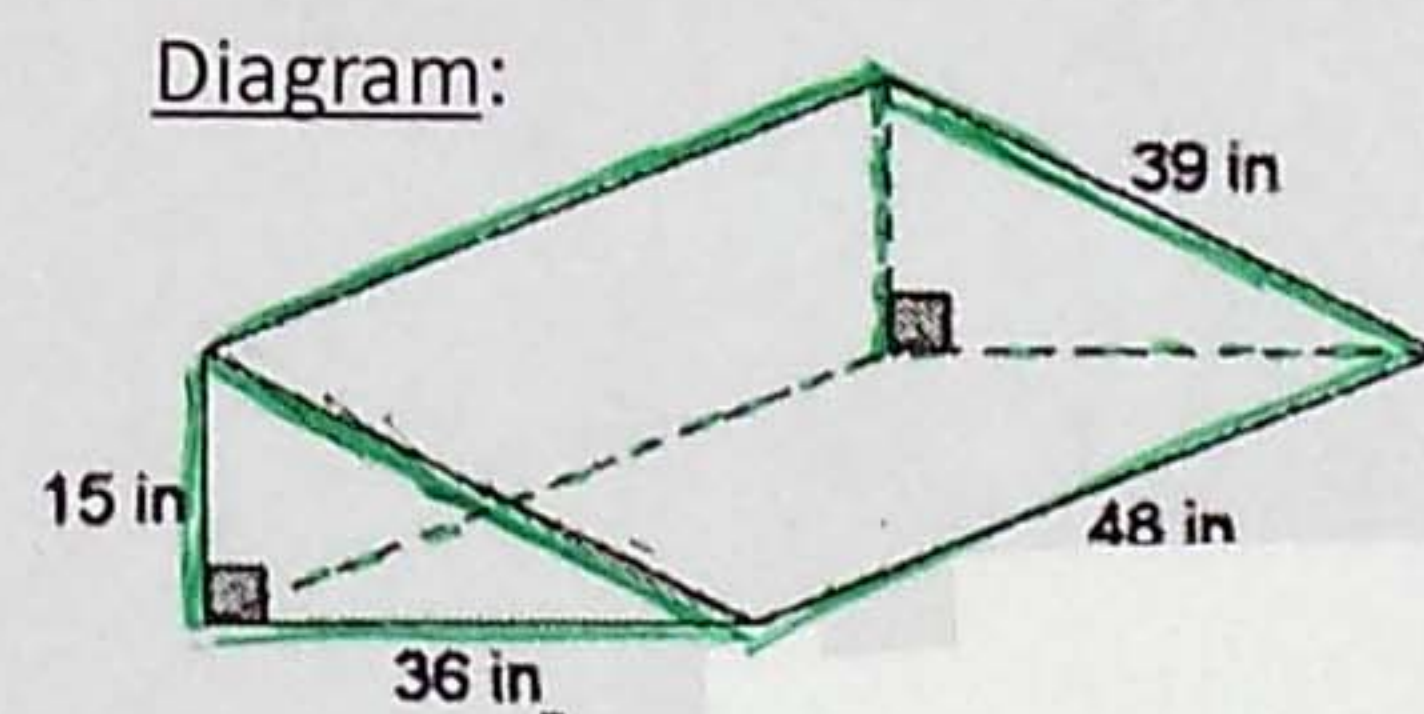
14. Find the surface area of a hemisphere with great circle area 144mm.
 Draw a diagram with dimensions labeled, then calculate.

$$\begin{aligned}
 SA &= \left(\frac{1}{2}\right)(4\pi r^2) \\
 &= \left(\frac{1}{2}\right)(4\pi \left(\sqrt{\frac{144}{\pi}}\right)^2) \\
 &= 288 \text{ mm}^2
 \end{aligned}$$



15. Find the surface area of a right triangular prism with base edge 36 in, height 15 in, slant height 39in, and length 48in. Draw a diagram and net with dimensions labeled, and then calculate.

$$\begin{aligned}
 SA &= Ph + 2B \\
 &= (15+36+39)(48) + 2\left(\frac{1}{2} \cdot 15 \cdot 36\right) \\
 &= 4320 + 540 \\
 &= 4860 \text{ in}^2
 \end{aligned}$$



YOU WILL HAVE TO DRAW THESE ON THE TEST.

**Note: You will have a different shape on the test