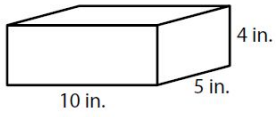
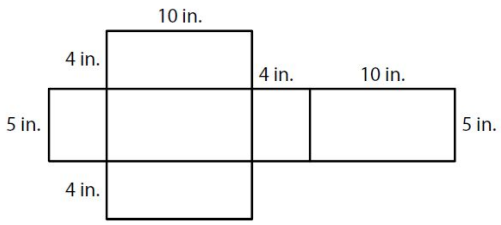
WS G4 (Lsn 24 pps)

1. Kanene wants to know how much wrapping paper she needs to cover this box. You can use a net to help you solve the problem.

Complete the table then answer the questions that follow.

| Face | Length (in) | Width (in) | Area ($in^2$) | Figures |
|---|---|---|---|---|
| Top | 10 | 5 | |   |
| Bottom | | | | |
| Front | | | | |
| Back | | | |   |
| R side | | | | |
| L side | | | | |

a. Which pairs of faces have the same area?

Ans to 1a

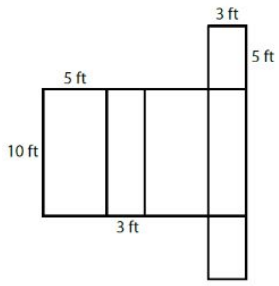
b. What is the surface area of the box? Use your answer to problem 1a to write and equation.

Ans to 1b

c. What is the relationship between the surface area of a rectangular prism and the area of each face?

Ans to 1c

2. Carl drew this net for a wooden shed that he will build. He wants to protect the wood against the weather by using a sealant on all of the outside surfaces, including the bottom. Will a container of sealant that covers 200 $ft^2$ be enough to protect the outside surfaces?




Ans to 2

3. The surface area of a cube is 216 $m^2$. What is the height of the cube? Explain.
**HINT**: $SA = 6s^2$ , where s is the side length.

Ans to 3

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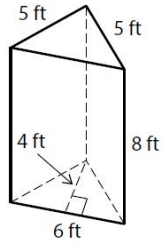
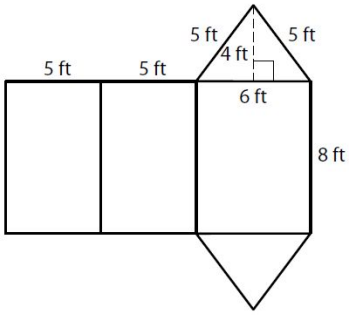
4. What is the surface area of the triangular prism shown?

| Face | Length (in) | Width (in) | Area (in$^2$) | Figures |
|---|---|---|---|---|
| Triangle | 6 | 4 | |   |
| Triangle | | | | |
| Rectangle | | | | |
| Rectangle | | | |   |
| Rectangle | | | | |

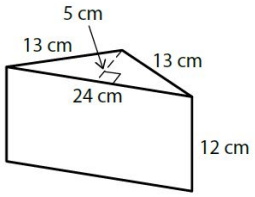
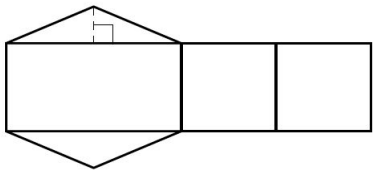
a. Why do the rectangular faces have different areas?

| Ans to 4a |
|---|

b. What is the surface area of the triangular prism. Write an equation to represent the surface area

| Ans to 4b |
|---|

5. Jane is decorating a paperweight in the shape of a triangular prism. What is the surface area of the paperweight?

| Face | Length (in) | Width (in) | Area (in$^2$) | Figures |
|---|---|---|---|---|
| Triangle | 24 | 5 | |   |
| Triangle | 24 | | | |
| Rectangle | 24 | 12 | | |
| Rectangle | 13 | | |  |
| Rectangle | 13 | | | |
| Surface Area | | | | |

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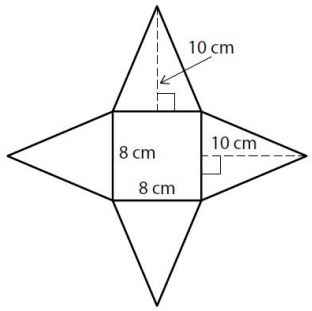
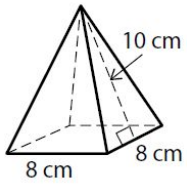
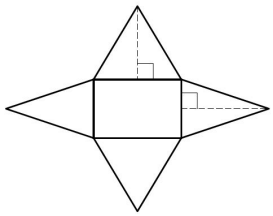
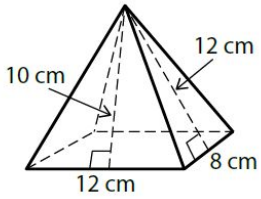
6. What is the surface area of the pyramid?

| Face | Length (in) | Width (in) | Area ($in^2$) | Figures |
|---|---|---|---|---|
| Triangle | 8 | 10 | |   |
| Triangle | | | | |
| Triangle | | | | |
| Triangle | | | |   |
| Square | | | | |
| Surface Area | | | | |

7. Marcos is making a pyramid in his wood shop class. The base of the pyramid is a rectangle. What is the surface area of the pyramid?

| Face | Length (in) | Width (in) | Area ($in^2$) | Figures |
|---|---|---|---|---|
| Triangle | 8 | 10 | |  |
| Triangle | | | | |
| Triangle | | | | |
| Triangle | | | |   |
| Rectangle | | | | |
| Surface Area | | | | |

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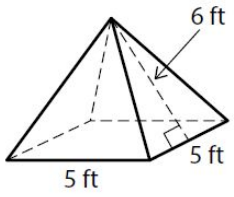
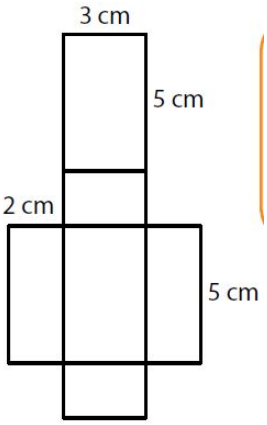
| **Problem #8** | | |
|---|---|---|
| Look at the pyramid. Tell whether each statement about the pyramid is true or false. | **True or False?** | **Note**: Square feet is abbreviated as $ft^2$ |
| A. The area of each triangular face is 30 $ft^2$ | |   |
| B. The surface area of the pyramid is 85 $ft^2$. | | |
| C. A net of the pyramid would have three triangular faces | | |
| D. The area of the base is 25 $ft^2$ | | |

| **Problem #9** | | |
|---|---|---|
| The net represents a rectangular prism/ Which expression represents the surface area. Select all that apply | **Mark x for correct** | **Note**: Square feet is abbreviated as $ft^2$ |
| A. $(3\times5) + (5\times2) + (2\times3)$ | |   |
| B. $15 + 15 + 6 + 6 + 10$ | | |
| C. $2(3\times5) + 2(3\times2) + 2(2\times5)$ | | |
| D. $2(10) + 2(6) + 2(15)$ | | |