## 1) Student created figure

2) Surface area = 2 (lw + hl + hw) $= 2 (4 \cdot 16 + 10 \cdot 16 + 10 \cdot 4)$ = 2(64 + 160 + 40)= 2 (264)  $= 528 \text{ in}^2$ 

## 3) One possible net:

|     | top face<br>16"   | 4" |                                   |           |     |                                    |
|-----|-------------------|----|-----------------------------------|-----------|-----|------------------------------------|
| 10" | front face<br>16" |    | 4"<br>10"<br>left<br>side<br>face | back face | 10" | 4"<br>10"<br>right<br>side<br>face |
|     | bottom face       |    |                                   |           |     |                                    |

| Shape/Face           | Area Formula      | Formula with Values | Area (unit <sup>2</sup> ) |
|----------------------|-------------------|---------------------|---------------------------|
| rectangle/front      | $A = I \bullet W$ | A = 16 • 10         | 160 in <sup>2</sup>       |
| rectangle/back       | $A = l \bullet w$ | A = 16 • 10         | 160 in <sup>2</sup>       |
| rectangle/top        | $A = l \bullet w$ | A = 4 • 16          | 64 in <sup>2</sup>        |
| rectangle/bottom     | $A = I \bullet W$ | A = 4 • 16          | 64 in <sup>2</sup>        |
| rectangle/left side  | $A = l \bullet w$ | A = 4 • 10          | 40 in <sup>2</sup>        |
| rectangle/right side | $A = I \bullet W$ | A = 4 • 10          | 40 in <sup>2</sup>        |

Total area: 160 + 160 + 64 + 64 + 40 + 40 = 528 in<sup>2</sup>

4) <u>*A*</u> is not a net for a rectangular prism. <u>*B*</u> is a net for a rectangular prism.

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5) One possible net:

|      |      | 4 cm |      |
|------|------|------|------|
|      |      | 3 cm |      |
| 4 cm | 3 cm | 4 cm | 3 cm |
| 2 cm | 2 cm | 2 cm | 2 cm |
| 3 cm |      |      |      |
| 4 cm |      |      |      |

| Shape/Face           | Area Formula      | Formula with Values | Area (units <sup>2</sup> ) |
|----------------------|-------------------|---------------------|----------------------------|
| rectangle/top        | $A = l \bullet w$ | A = 4 • 3           | 12 cm <sup>2</sup>         |
| rectangle/front      | $A = l \bullet w$ | $A = 2 \bullet 4$   | 8 cm <sup>2</sup>          |
| rectangle/left side  | $A = l \bullet w$ | A = 2 • 3           | 6 cm <sup>2</sup>          |
| rectangle/back       | $A = l \bullet w$ | $A = 2 \bullet 4$   | 8 cm <sup>2</sup>          |
| rectangle/bottom     | $A = l \bullet w$ | $A = 3 \bullet 4$   | 12 cm <sup>2</sup>         |
| rectangle/right side | $A = l \bullet w$ | A = 2 • 3           | 6 cm <sup>2</sup>          |

Total area = 12 + 8 + 6 + 8 + 12 + 6 = 52 cm<sup>2</sup>

Surface area = 2(lw + hl + hw)

 $l = 4 \text{ cm} \qquad w = 3 \text{ cm} \qquad h = 2 \text{ cm}$ Surface area  $= 2 (4 \cdot 3 + 2 \cdot 4 + 2 \cdot 3)$ = 2 (12 + 8 + 6)= 2 (26) $= 52 \text{ cm}^2$ 

6) Surface area = 2 (lw + hl + hw)

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l = 18 in w = 14 in h = 8 in
Surface area = 2 (18 • 14 + 8 • 18 + 8 • 14)
= 2 (252 + 144 + 112)
= 2 (508)
= 1016 in<sup>2</sup>
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