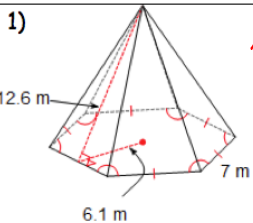
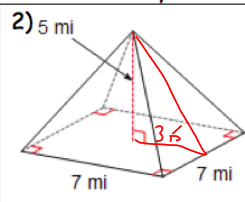


10.2 Practice Solutions

Directions: Find the lateral area. Round to the nearest tenth if necessary.

1)  $LA = \frac{1}{2} p l$
 $= \frac{1}{2} (42) (12.6)$
 $= 264.6 m^2$

$p = 7(6)$
 $= 42$

2)  $LA = \frac{1}{2} p l$
 $= \frac{1}{2} (28) (6.1)$
 $= 85.4 mi^2$

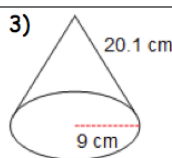
$p = 7(4) = 28$

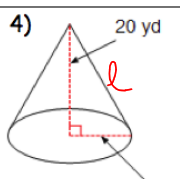
$l = 5$

3.5

$5^2 + 3.5^2 = l^2$
 $\sqrt{37.25} = \sqrt{l^2}$
 $6.1 = l$

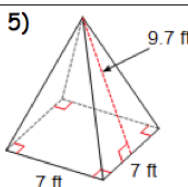
Directions: Find the lateral area. Leave in terms of π and round to the nearest tenth.

3)  $LA = \pi r l$
 $= \pi (9) (20.1)$
 $= 180.9 \pi cm^2$
 $= 568.3 cm^2$

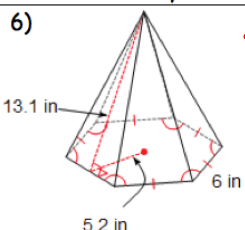
4)  $LA = \pi r l$
 $LA = \pi (10) (22.4)$
 $LA = 224 \pi yd^2$
 $LA = 703.7 yd^2$

$l^2 = 10^2 + 20^2$
 $\sqrt{l^2} = \sqrt{500}$
 $l = 22.4$

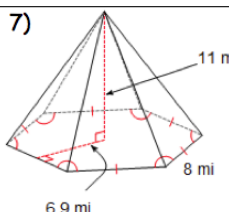

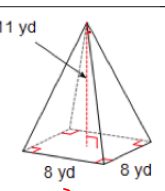

Directions: Find the surface area. Round to the nearest tenth if necessary.

5)  $SA = \frac{1}{2} p l + s^2$
 $= \frac{1}{2} (28) (9.7) + 7^2$
 $= 135.8 + 49$
 $= 184.8 ft^2$

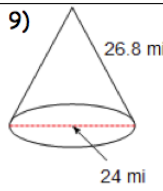
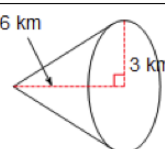
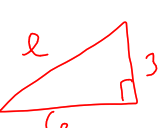
$p = 7(4)$
 $= 28$

6)  $SA = \frac{1}{2} p l + \frac{1}{2} a p$
 $= \frac{1}{2} (36) (13.1) + \frac{1}{2} (5.2) (6)$
 $= 235.8 + 93.6$
 $= 329.4 in^2$

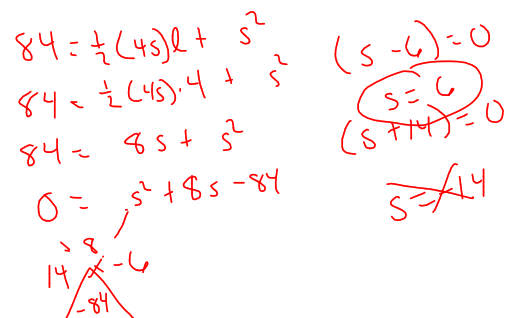
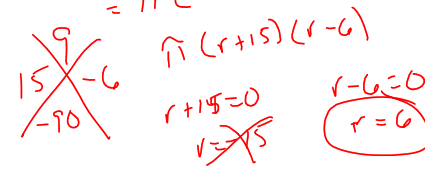
$p = 6(6)$
 $= 36$

<p>7)</p>  <p>11 mi 8 mi 6.9 mi</p> $SA = \frac{1}{2}pl + \frac{1}{2}ap$ $= \frac{1}{2}(48)(11) + \frac{1}{2}(6.9)(48)$ $= 312 + 165.6$ $= 477.6 \text{ mi}^2$  <p>$l^2 = 11^2 + 6.9^2$ $l^2 = 168.61$ $l = 13.0$</p>	<p>8)</p>  <p>11 yd 8 yd 8 yd</p> $SA = \frac{1}{2}pl + s^2$ $= \frac{1}{2}(32)(11.7) + 8^2$ $= 187.2 + 64$ $= 251.2 \text{ yd}^2$  <p>$l^2 = 4^2 + 11^2$ $\sqrt{l^2} = \sqrt{137}$ $l = 11.7$</p>
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Directions: Find the surface area. Leave in terms of π and round to the nearest tenth.

<p>9)</p>  <p>26.8 mi 24 mi</p> $SA = \pi r l + \pi r^2$ $= \pi(24)(26.8) + \pi(24^2)$ $= 321.6\pi + 144\pi$ $= 465.6\pi \text{ mi}^2$ $= 1462.7 \text{ mi}^2$	<p>10)</p>  <p>6 km 3 km</p> $SA = \pi r l + \pi r^2$ $= \pi(3)(6.7) + \pi(3^2)$ $= 20.1\pi + 9\pi$ $= 29.1\pi \text{ km}^2$ $= 91.4 \text{ km}^2$  <p>$l^2 = 6^2 + 3^2$ $l^2 = 36 + 9$ $\sqrt{l^2} = \sqrt{45}$ $l = 6.7$</p>
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Directions: Find the missing length.

<p>11) A square pyramid has a surface area of 84 in^2 with a slant height of 10 in. What is the length of one side of the base?</p> $SA = \frac{1}{2}pl + s^2$ $84 = \frac{1}{2}(4s)l + s^2$ $84 = \frac{1}{2}(4s) \cdot 10 + s^2$ $84 = 20s + s^2$ $0 = s^2 + 20s - 84$  <p>$(s - 6) = 0$ $s = 6$ $(s + 14) = 0$ $s = -14$</p>	<p>12) A cone has a surface area of $90\pi \text{ in}^2$ with a slant height of 9 in. What's the length of the radius?</p> $SA = \pi r l + \pi r^2$ $90\pi = \pi r(9) + \pi r^2$ $90\pi = 9\pi r + \pi r^2$ $0 = \pi r^2 + 9\pi r - 90\pi$ $= \pi(r^2 + 9r - 90)$ $\pi(r + 15)(r - 6)$  <p>$r + 15 = 0$ $r = -15$ $r - 6 = 0$ $r = 6$</p>
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