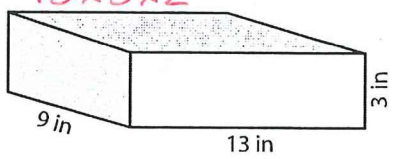
Name : _____ Proficient

Surface Area - Rectangular Prism

Integers: ES1

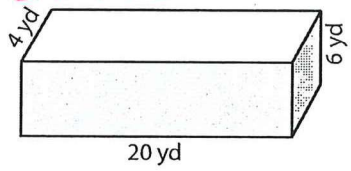
Find the surface area of each rectangular prism.

1) $9\times13\times2$
$9\times3\times2$
$13\times3\times2$



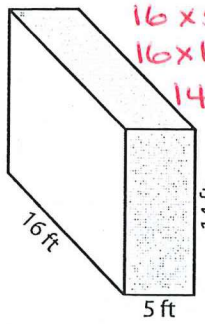
Surface Area = $366\ in^2$

2) $20\times6\times2$
$20\times4\times2$
$6\times4\times2$



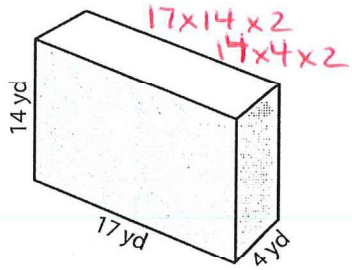
Surface Area = $448\ yd^2$

3) $16\times5\times2$
$16\times14\times2$
$14\times5\times2$



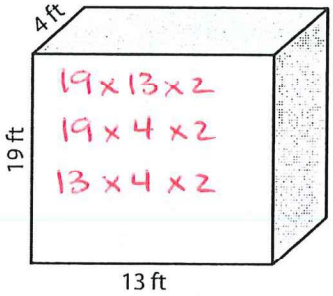
Surface Area = $748\ ft^2$

4) $17\times4\times2$
$17\times14\times2$
$14\times4\times2$



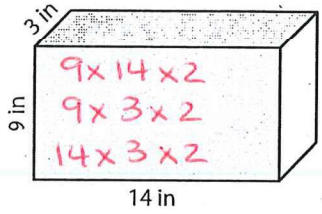
Surface Area = $724\ yd^2$

5) $19\times13\times2$
$19\times4\times2$
$13\times4\times2$



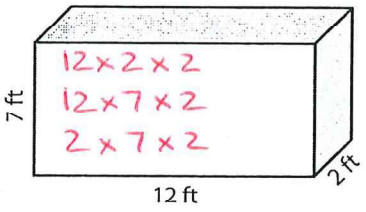
Surface Area = $750\ ft^2$

6) $9\times14\times2$
$9\times3\times2$
$14\times3\times2$



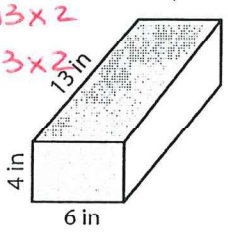
Surface Area = $390\ in^2$

7) $12\times2\times2$
$12\times7\times2$
$2\times7\times2$



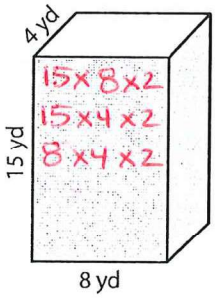
Surface Area = $244\ ft^2$

8) $4\times6\times2$
$4\times13\times2$
$6\times13\times2$



Surface Area = $308\ in^2$

9) $15\times8\times2$
$15\times4\times2$
$8\times4\times2$



Surface Area = $424\ yd^2$

10) A rectangular-shaped box has the following dimensions: 12 yards, 8 yards, and 18 yards. What is the surface area of the box?

$12\times8\times2$
$12\times18\times2$
$8\times18\times2$

Surface Area = $912\ yd^2$

Name : _____

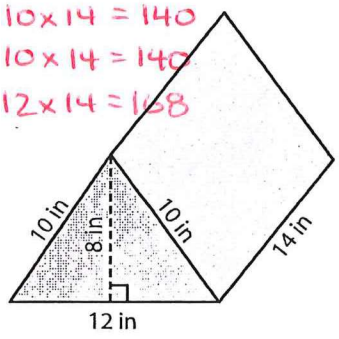
Surface Area of Triangular Prisms

Sheet 1

Find the surface area of each triangular prism.

1) $\frac{12 \times 8}{2} \times 2 = 96$

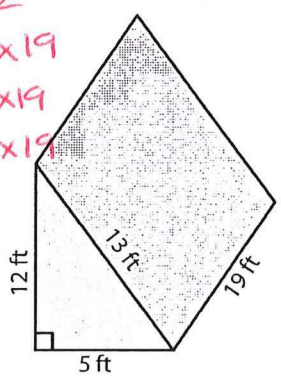
$10 \times 14 = 140$
$10 \times 14 = 140$
$12 \times 14 = 168$



Surface Area = $544\ in^2$

2) $\frac{12 \times 5}{2} \times 2 = 60$

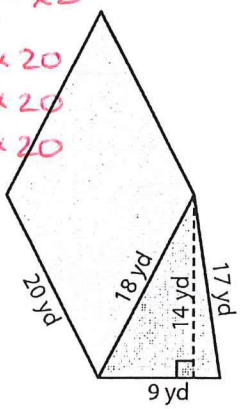
5×19
12×19
13×19



Surface Area = $630\ ft^2$

3) $\frac{9 \times 14}{2} \times 2$

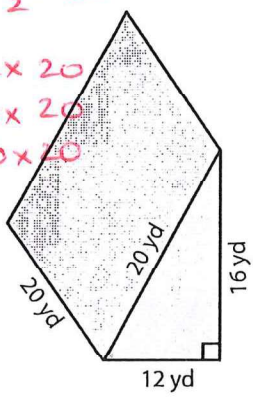
9×20
17×20
18×20



Surface Area = $1006\ yd^2$

4) $\frac{12 \times 16}{2} \times 2$

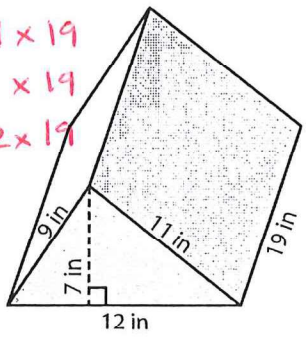
12×20
16×20
20×20



Surface Area = $1152\ yd^2$

5) $\frac{7 \times 12}{2}$

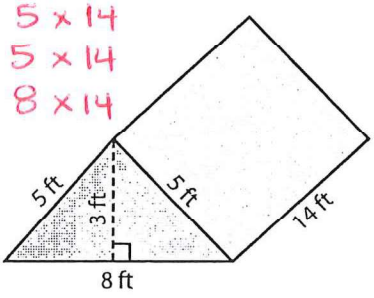
9×19
11×19
12×19



Surface Area = $692\ in^2$

6) $\frac{3 \times 8}{2} \times 2$

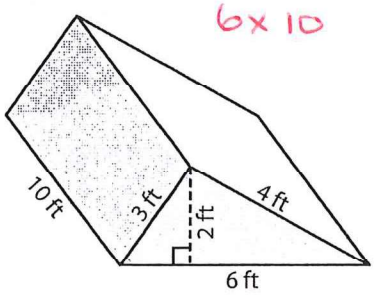
5×14
5×14
8×14



Surface Area = $276\ ft^2$

7) $\frac{2 \times 6}{2} \times 2$

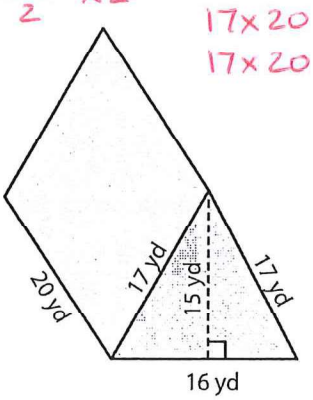
3×10
4×10
6×10



Surface Area = $142\ ft^2$

8) $\frac{15 \times 16}{2} \times 2$

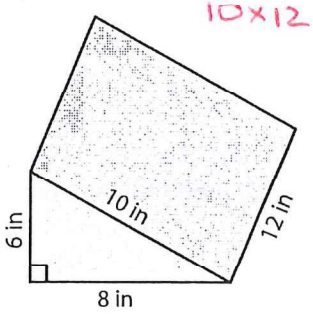
16×20
17×20
17×20



Surface Area = $1240\ yd^2$

9) $\frac{6 \times 8}{2} \times 2$

6×12
8×12
10×12



Surface Area = $336\ in^2$

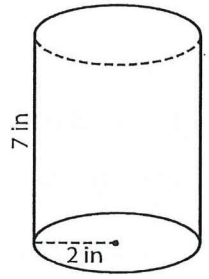
Name : _____

Surface Area - Cylinder

ES1

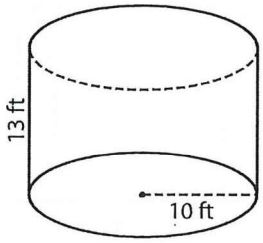
Find the surface area of each cylinder. (use $\pi = 3.14$)

1) $2\pi \times 2^2 + 2\pi \times 2 \times 7$



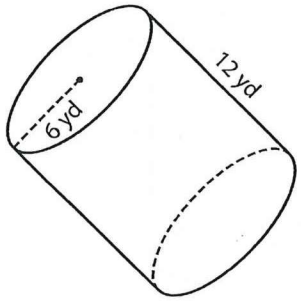
Surface Area = $113.04\ in^2$

2) $2\pi \times 10^2 + 2\pi \times 10 \times 13$



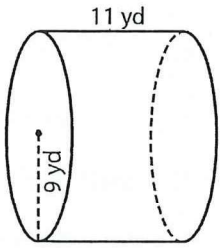
Surface Area = $1444.4\ ft^2$

3) $2\pi \times 6^2 + 2\pi \times 6 \times 12$



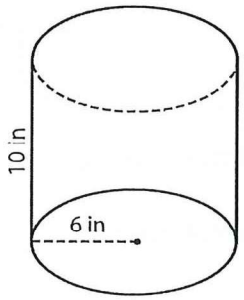
Surface Area = $678.24\ yd^2$

4) $2\pi \times 9^2 + 2\pi \times 9 \times 11$



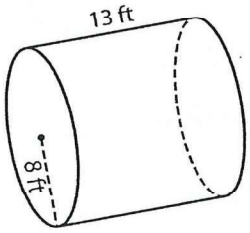
Surface Area = $1130.4\ yd^2$

5) $2\pi \times 6^2 + 2\pi \times 6 \times 10$



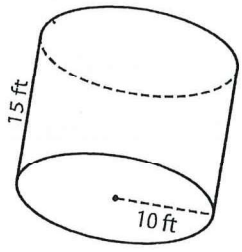
Surface Area = $602.88\ in^2$

6) $2\pi \times 8^2 + 2\pi \times 8 \times 13$



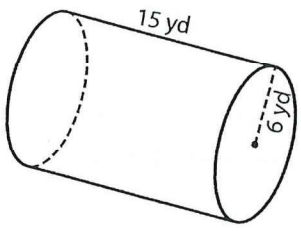
Surface Area = $1055.04\ ft^2$

7) $2\pi \times 10^2 + 2\pi \times 10 \times 15$



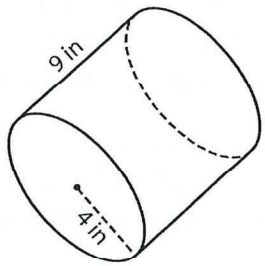
Surface Area = $1570\ ft^2$

8) $2\pi \times 6^2 + 2\pi \times 6 \times 15$



Surface Area = $791.28\ yd^2$

9) $2\pi \times 4^2 + 2\pi \times 4 \times 9$



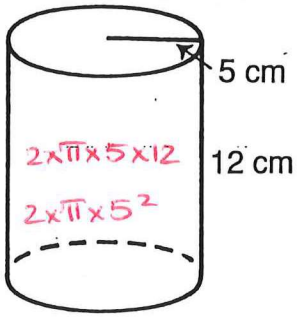
Surface Area = $326.56\ in^2$

Why Did Humpty Dumpty Have a Great Fall?

Do each exercise and find your answer in the answer column. Write the letter of the answer in each box containing the number of the exercise. Use 3.14 for π.

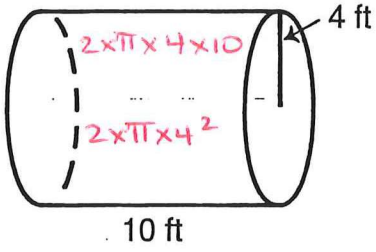
→ rectangle ($2\pi rh$) → rectangle + 2 circles: $2\pi r^2 + 2\pi rh$

I. Find the lateral area and the total surface area of each cylinder.



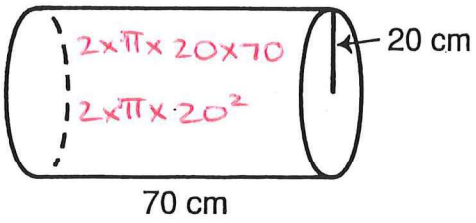
(1) lateral area: 376.8 cm²

(2) total area: 533.8 cm²



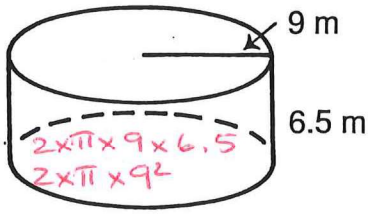
(3) lateral area: 251.2 ft²

(4) total area: 351.68 ft²



(5) lateral area: 8792 cm²

(6) total area: 11304 cm²



(7) lateral area: 367.38 m²

(8) total area: 876.06 m²

II. Find the total surface area of each cylinder.

(9) $r = 3$ cm, $h = 10$ cm — 244.92 cm² — $2\times\pi\times3^2 + 2\times\pi\times3\times10$

(10) $r = 8$ in., $h = 8$ in. — 803.84 in² — $2\times\pi\times8^2 + 2\times\pi\times8\times8$

(11) $d = 10.8$ m ÷ 2 = 5.4, $h = 2.6$ m — $2\times\pi\times5.4^2 + 2\times\pi\times5.4\times2.6$ = 271.296 m²

III. Solve.

(12) A can of tomato juice is a cylinder with a radius of 7.5 cm and a height of 20 cm. What is the area of the label around the can? → not circles — $2\times\pi\times7.5\times20$ = 942 cm²

(13) A steel oil tank is a cylinder with a diameter of 12 ft and a height of 18 ft. How many square feet of steel were needed to make the tank? → r = 6 ft — $2\times\pi\times6^2 + 2\times\pi\times6\times18$ = 904.32 ft²

(Y) 412.18 ft²
(R) 803.84 in.²
(H) 792.16 m²
(T) 251.2 ft²
(M) 904.32 ft²
(L) 861.6 cm²
(S) 367.38 m²
(D) 376.8 cm²
(P) 244.92 cm²
(C) 815.18 ft²
(K) 11,304 cm²
(B) 942 cm²
(E) 351.68 ft²
(N) 775.14 in.²
(U) 533.8 cm²
(A) 271.296 m²
(O) 876.06 m²
(V) 12,412 cm²
(F) 8,792 cm²
(I) 311.046 m²

3	8	13	11	6	4	2	9	5	8	10	11	12	11	1	7	2	13	13	4	10
T	O	M	A	K	E	U	P	F	O	R	A	B	A	D	S	U	M	M	E	R

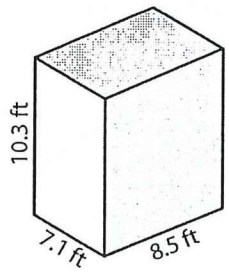
Name : _____ Extending

Surface Area - Rectangular Prism

Decimals: S1

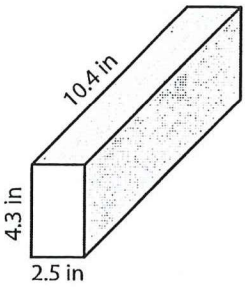
Find the surface area of each rectangular prism.

1)



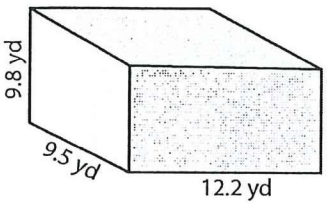
Surface Area = 442.06 ft^2

2)



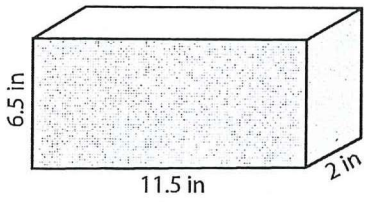
Surface Area = 162.94 in^2

3)



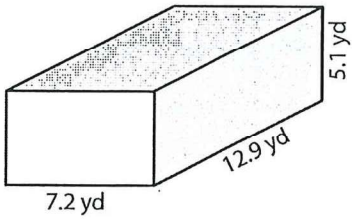
Surface Area = 657.12 yd^2

4)



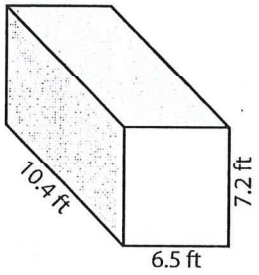
Surface Area = 221.5 in^2

5)



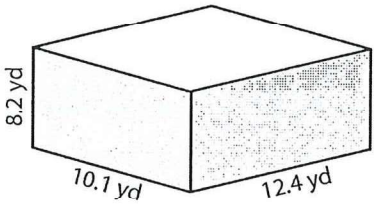
Surface Area = 390.78 yd^2

6)



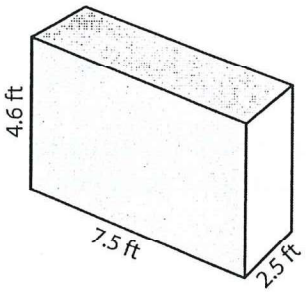
Surface Area = 378.56 ft^2

7)



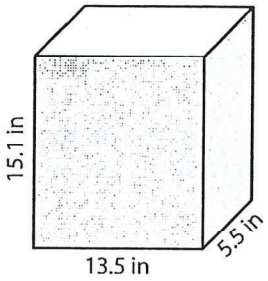
Surface Area = 619.48 yd^2

8)



Surface Area = 129.5 ft^2

9)



Surface Area = 722.3 in^2

10) The length, width, and height of a wooden box are 12.3 inches, 6.4 inches, and 7.5 inches respectively. Find the surface area of the box.

Surface Area = 437.94 in^2

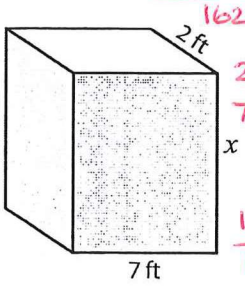
Name : _____

Surface Area - Rectangular Prism

Sheet 1

Find the value of x.

1) Surface Area = 190 ft²



$-2\times7\times2$

162

$2\times x\times2=4x$

$7\times x\times2=14x$

$18x$

$\frac{162}{18}=\frac{18x}{18}$

$x =$ 9 ft

2) Surface Area = 202 yd²

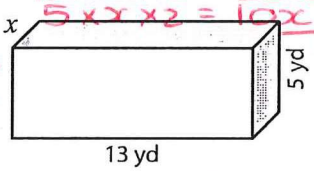
$-13\times5\times2$

72

$13\times x\times2=26x$

$5\times x\times2=10x$

$36x$



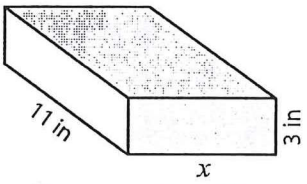
$\frac{72}{36}=\frac{36x}{36}$

$x =$ 2 yd

3) Surface Area = 290 in²

$-11\times3\times2$

224



$11\times x\times2=22x$

$3\times x\times2=6x$

$\frac{28x}{28}=\frac{224}{28}$

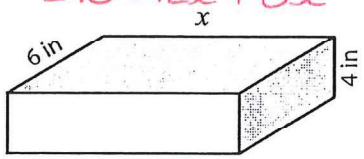
$x =$ 8 in

4) Surface Area = 288 in²

$-6\times4\times2$

240

$240=12x+8x$



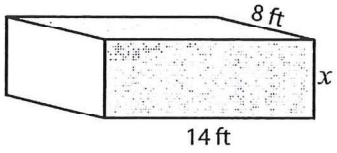
$\frac{240}{20}=\frac{20x}{20}$

$x =$ 12 in

5) Surface Area = 532 ft²

$-8\times14\times2$

308



$308=16x+28x$

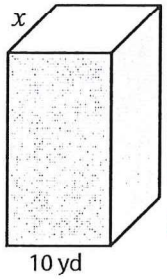
$\frac{308}{44}=\frac{44x}{44}$

$x =$ 7 ft

6) Surface Area = 760 yd²

$-20\times10\times2$

360



$360=20x+40x$

$\frac{360}{60}=\frac{60x}{60}$

$x =$ 6yd

7) The length and height of a rectangular prism are 12 feet and 9 feet respectively. Determine the width of the rectangular prism whose surface area is 258 square feet.

$258-(12\times9\times2)=42$

$42=24x+18x$

$\frac{42}{42}=\frac{42x}{42}$

width $= x =$ 1 foot

8) A rectangular prism is 18 inches height and 15 inches wide. If its surface area is 1,596 square inches, find the length of the prism.

$1596-(18\times15\times2)=1056$

$1056=36x+30x$

$\frac{1056}{66}=\frac{66x}{66}$

length $= x =$ 16 in

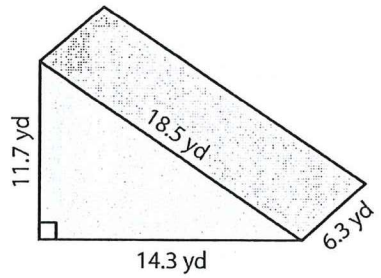
Name : _____

Surface Area of Prisms & Cylinders

Decimals: L1S1

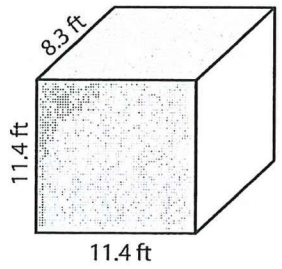
Find the surface area of each shape. Round your answer to two decimal places. (use $\pi = 3.14$)

1)



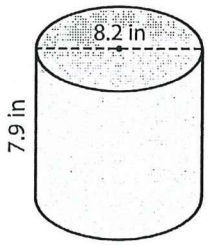
Surface Area = 447.66 yd^2

2)



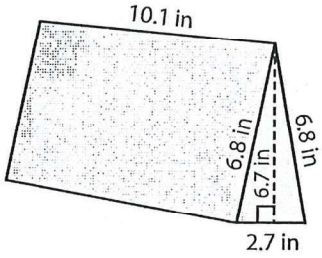
Surface Area = 638.4 ft^2

3)



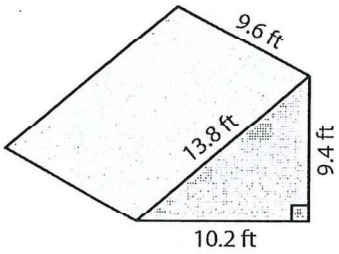
Surface Area = 308.98 in^2

4)



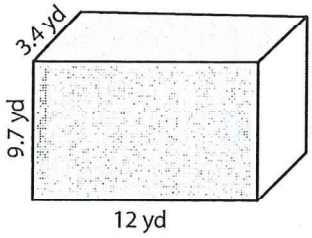
Surface Area = 182.72 in^2

5)



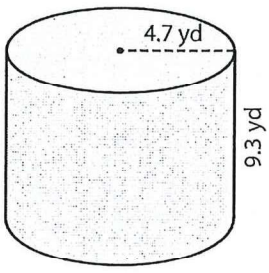
Surface Area = 416.52 ft^2

6)



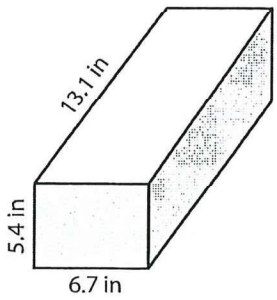
Surface Area = 380.36 yd^2

7)



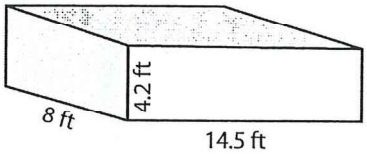
Surface Area = 413.22 yd^2

8)



Surface Area = 389.38 in^2

9)



Surface Area = 421 ft^2

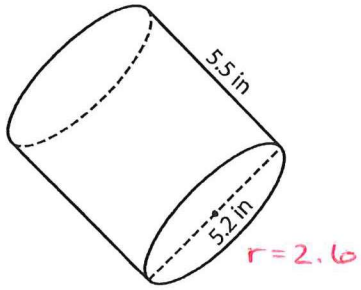
Name : _____

Surface Area - Cylinder

Decimals: S1

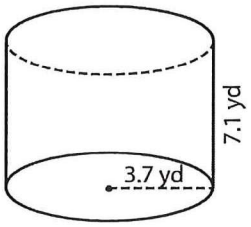
Find the surface area of each cylinder. Round your answer to two decimal places. (use $\pi = 3.14$)

1)



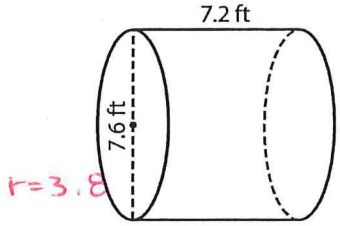
Surface Area = 132.26 in^2

2)



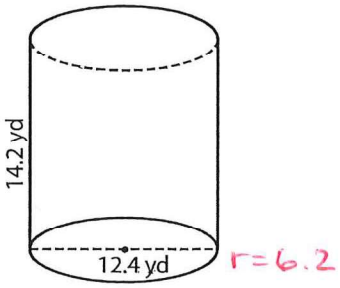
Surface Area = 250.95 yd^2

3)



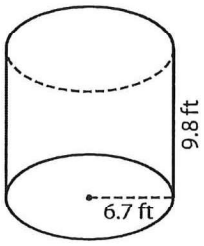
Surface Area = 262.50 ft^2

4)



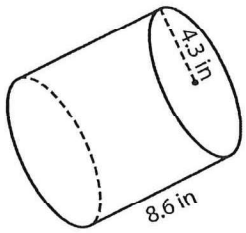
Surface Area = 794.29 yd^2

5)



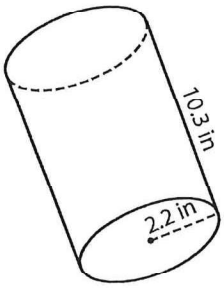
Surface Area = 694.25 ft^2

6)



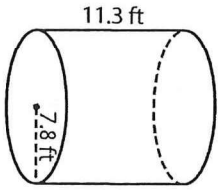
Surface Area = 348.35 in^2

7)



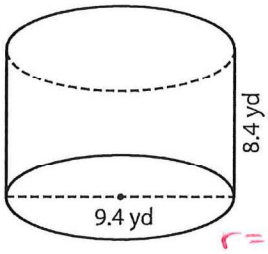
Surface Area = 172.7 in^2

8)



Surface Area = 935.59 ft^2

9)



Surface Area = 386.66 yd^2