Name _____

Surface Area Patterns

Find the surface area of the following cylinders:

Surface Area = $2\pi r^2 + 2\pi rh$

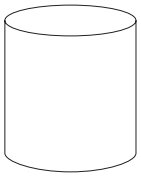
Set 1- Doubling

Cylinder 1

r = 2 cm.
h = 3 cm.

S = _____

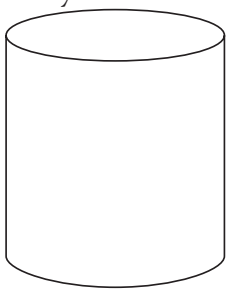
Cylinder 2



r = 4 cm.
h = 6 cm.

S = _____

Cylinder 3



r = 8 cm
h = 12 cm.

S = _____

What pattern is produced in the surface area as the radius and height of the cylinders in Set 1 are doubled? Explain your answer. _____

What would the surface area be of a fourth cylinder in Set 1? _____

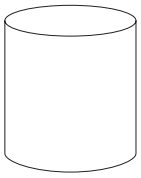
Set 2 - Tripling

Cylinder 1

r = 2 cm.
h = 3 cm.

S = _____

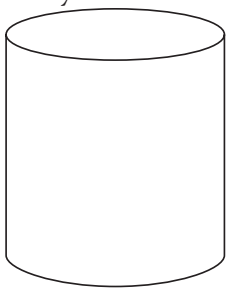
Cylinder 2



r = 6 cm.
h = 9 cm.

S = _____

Cylinder 3



r = 18 cm.
h = 27 cm.

S = _____

What pattern is produced in the surface area as the radius and height of the cylinders in Set 2 are tripled? Explain your answer. _____

What would the surface area be of a fourth cylinder in Set 2? _____