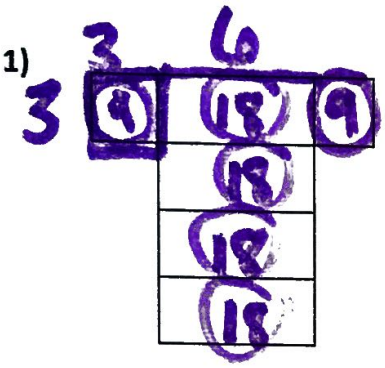
ML #3 – Volume and Surface Area for Prisms and Cylinders (Unit 10 – Math 7 Plus)

- Put the dimensions on the ML nets
- Use the given nets to construct prisms and cylinders.
- Make the nets in the suggested order.
- Start by using the nets to help find the surface area and volume for the prism or cylinder made
- As you progress work on formulating a method to find surface area and volume for prisms (rectangular and triangular) and cylinders.

1)



Number of squares to cover 90

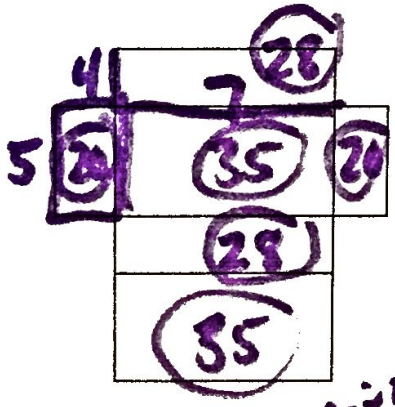
Number of cubes to fill 54

2)

Number of squares to cover 54

Number of cubes to fill 27

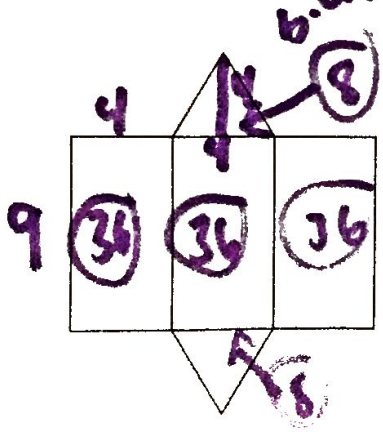
3)



Number of squares to cover 166

Number of cubes to fill 140

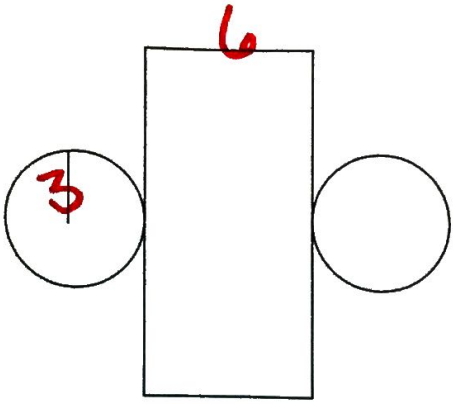
4)



Number of squares to cover 124

Number of cubes to fill 72

5)

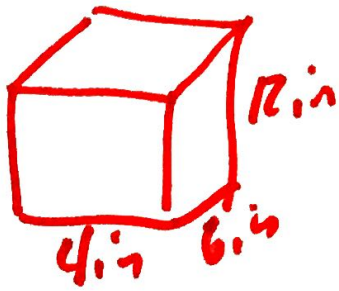


Number of squares to cover 169

Number of cubes to fill 169

- What is Surface Area: number of squares to cover a solid
  * units squared cm^2 ft^2 in^2
- How do we find surface area in prisms?

Find area of all the faces and add them



- How do we find surface area in cylinders?

$2 \cdot \pi \cdot r^2 + 2 \cdot \pi \cdot r \cdot h$ $(\pi \cdot d \cdot h)$

$2 \cdot \pi \cdot r^2$ → 2 circles

$2 \cdot \pi \cdot r \cdot h$ →  lateral area

- What is volume?

Number of cubic units to fill a solid. * units cubed cm^3, in^3, ft^3

- How do we find volume in prisms and cylinders?

$V = B \cdot h$ ← height of prism

↑ Area of base

$V = Bh$

$V = (l \cdot w) \cdot h$

$V = Bh$

$V = (bh \div 2) \cdot h$

$V = Bh$

$V = (\pi r^2)h$