Name: _____ Date: Aug 23 Hour: 7th

Unit 1 Day 5: Substituting Practice Day

Focus Question: Can I substitute and simplify correctly?

Kinetic Energy	Surface area of a cylinder	Volume of a cylinder	Volume of a cone	Area of a circle
k is kinetic energy in joules m is mass in kilograms (weight) v is velocity in (speed) meters per second	S is surface area in square units $\pi \approx 3.14$ r is radius in units h is height in units	V is volume in cubic units $\pi \approx 3.14$ r is radius in units h is height in units	V is volume in cubic units $\pi \approx 3.14$ r is radius in units h is height in units	A is area in square units $\pi \approx 3.14$ r is radius in units
$k = \frac{1}{2}mv^2$	$S = 2\pi r^2 + 2\pi rh$	$V = \pi r^2 h$	$V = \frac{\pi r^2 h}{3}$	$A = \pi r^2$

Sage/Scribe rolls	**Person A is the SAGE** (they do the talking through the problem) **Person B is the SCRIBE** (they write what the sage says and can prompt with words if the sage gets stuck or they think it is incorrect and give encouragement)	**Person B is the SAGE** (they do the talking through the problem) **Person A is the SCRIBE** (they write what the sage says and can prompt with words if the sage gets stuck or they think it is incorrect and give encouragement)
Problem	Find the volume of a cylinder with a height of 10 cm and radius of 4 cm.	Find the kinetic energy of an object that weighs 20 grams (kg) with a velocity of 50 meters per second.
Scribe's Work	$V = (3.14)(4)^2(10)$ $V = 502.4$ cubic cm $h = 10$ $r = 4$ $\pi = 3.14$	$K = (\frac{1}{2})(20)(50)^2$ $K = 25000$ joules $m = 20$ $v = 50$
Problem	Find the area of a circle with a diameter of 24 inches.	Find the volume of a cone with a radius of 18 mm and a height of 125 mm.
Scribe's Work	$A = (3.14)(12)^2$ $A = 452.16$ square inches $\pi = 3.14$ $r = 12$	$V = \frac{(3.14)(18)^2(125)}{3}$ $V = 42390$ cubic mm $\pi = 3.14$ $r = 18$ $h = 125$