STUDENT MATERIALS

PROBLEM 1 – EXPERT IN EXPRESSIONS: TEMPERATURE

1. Hannah lives in Michigan and is going to visit her cousins in Canada. She is struggling to figure out what type of clothes she should pack for her trip. Her cousins tried to help her by telling Hannah the temperature in Canada, but how could it be 20° in May? Hannah's mom reminded her that Canada uses the Celsius temperature scale while in the United States the Fahrenheit temperature scale is used.

a. Use the formula $F = \frac{9}{5}C + 32$ to figure out the temperatures in Fahrenheit for her trip.

Temperature in Celsius for the 3 days	Temperature in Fahrenheit
May 3rd = 20°	68 F
May 4th = 25°	77 F
May 5th = 22°	71.6 F

b. What types of clothing do you recommend Hannah should pack for the 3 days and why?

for may 3 I recommend leggings and a short sleeved shirt with a coat or jacket. for may 4th I recomend shorts with a short sleeved shirt. and for may 5th I recoment a long sleeve shirt with shoes

PROBLEM 2 – EXPERT IN EXPRESSIONS: SPEED

2. Eshaan loves to run in his physical education class. He runs for ten minutes every week in class. His teacher computes every student's rate and shares it with the students. He wants to know how far he would travel if he ran for one hour.

a. Use the formula $d = r \cdot t$ to figure out the distance (***d***) in miles where ***t*** represents time (in minutes) and ***r*** represents rate (miles per minute).

Running Rate for each week	How many miles did Eshaan run in 10 minutes?
September 1 = $\frac{1\ mile}{12\ minutes}$	
September 8 = $\frac{1\ mile}{10\ minutes}$	
September 15 = $\frac{1\ mile}{8\ minutes}$	

b. Eshaan looked at his running rates and wanted to create a goal of the number of miles he could run in an hour on September 23. What is a reasonable goal for Eshaan? Explain why this goal is realistic and reasonable.

PROBLEM 3 – EXPERT IN EXPRESSIONS: VOLUME

3. Naomi wants to create a cube to hold her charger cords and earbuds that will fit on her nightstand next to her bed. She is trying to choose from three different cubes. How much space will she have inside the cube to fit her things?

a. Use the formula $V = s^3$ to figure out the volume of the box where **s** is the side length.

Length Options for Boxes	Volume of Box
2 inches	8
3 inches	27
4 inches	64

b. Naomi wants to make a cube that doesn't have a lot of extra space but fits her earbud case and some charging cords. Her earbud case has a volume of 13.5 cubic inches. Which of the boxes would be her best option and why?

3 inches would be the best because its a bit bigger but it wont work.