MEASUREMENT TOOLKIT TASK CARDS (GR. 9-10)

TASK 1

Using the **measuring tape**, find the height and width of the door to the nearest tenth of a centimeter. Use a trigonometric ratio to find the angle of elevation and the angle of depression inside the door frame imagining there is a line drawn through the door diagonally.

Gr. 10+

TASK 2

Using the **fractional measuring tape**, find the length and width of your desk in inches as a mixed number. Find the perimeter in cm, showing your work mathematically.

Gr. 10+

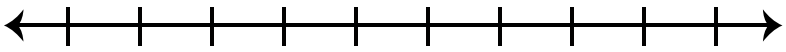
TASK 3

If the expression 3x-y represents the width of your classroom to the nearest whole meter and the expression 5x+2y represents the length, use elimination to find the solution to this system. Round your solution to the nearest tenth if needed.

Gr. 10+

TASK 4

Using the **fractional measuring tape**, measure the length of 2 different pencils in inches. Place your measurements on a number line as mixed numbers. Then convert to a decimal and place their opposites on the same number line.



Gr. 9+

TASK 5

A friend wants to draw a picture of you using a scale of 1:4. What would be your height on the drawing in centimeters? Round your answer to the nearest hundredth if needed.

Gr. 9+

TASK 6

Using the **measuring tape**, find the length and width of your desk. Find the area in cm and yards.

Gr. 10+

TASK 7

Using the **digital caliper** find the approximate volume of a pop can or another cylinder in cubic centimeters and cubic inches.

Gr. 10+

TASK 8

A friend draws a diagram of your hand using a scale factor of 0.75. Using the tool of your choice, find the width of your palm on the diagram to the nearest tenth of a centimeter.

Gr. 9+

TASK 9

Using the **fractional measuring tape**, measure the length and width of the whiteboard in inches. Use a trigonometric ratio to find the angle of elevation and the angle of depression imagining there is a line drawn through the board diagonally.

Gr. 10+

TASK 10

Solve the function $f(x)=x^2 - 4$ if x is equal to the length of your teacher's desk in feet to the nearest whole number.

Gr. 10+

TASK 11

Let y be equal to your current height in centimeters. Write an appropriate range using interval AND set notation that represents your height from the day you were born until now.

Gr. 10+

TASK 12

Stack two tissue boxes so that the most amount of surface area is exposed. Using a tool of your choice calculate the surface area of your stacked tissue boxes to the nearest tenth of a square centimeter.

Gr. 9+

TASK 13

Using the **measuring tape** or the **digital caliper** calculate the surface area of two tissue boxes stacked one on top of the other. Record your answer to the nearest tenth of a square centimeter. Convert to square inches.

Gr. 10+

TASK 14

Stack two tissue boxes so that the least amount of surface area is exposed. Using a tool of your choice calculate the volume of your stacked tissue boxes to the nearest tenth of a square centimeter.

Gr. 10+

TASK 15

Stack two tissue boxes so that the least amount of surface area is exposed. Using a tool of your choice calculate the exposed surface area of your stacked tissue boxes to the nearest tenth of a square centimeter. Next, compare your answer with a friend. Did you get close to the same answer?

Gr. 9+

TASK 16

A finishing carpenter wants to tile the top of your teacher's desk. A tile measures 1 ft by 1 ft and costs $2.72 each. How many tiles are required to complete the project and how much will it cost? Find your dimensions in cm. Show your work mathematically.

Gr. 10+

TASK 17

Given the linear equation y=2x+b where x is the width of your desk and y is the length to the nearest whole inch, find the y-intercept. Show your work on the recording sheet.

Gr. 9+

TASK 18

Given two points (x, 5) and (10, 15) where x is the length of your index finger to the nearest whole centimeter, write a linear equation in slope-intercept form that passes through both points.

Gr. 10+

TASK 19

You measured the height of a stack of books to be y cm. The stack grows by 3 cm for every extra book added. Write the equation of the line in slope-point form using the point (4,y), where 4 is the current number of books.

Gr. 10+

TASK 20

Stack two tissue boxes so that the least amount of surface area is exposed. Using a tool of your choice calculate the surface area of your stacked tissue boxes to the nearest tenth of a square centimeter. Convert to feet.

Gr. 10+

TASK 21

Using the **tread depth gauge**, measure the treads of 2 different shoes in mm. Next, use the measuring tape to measure the length of both shoes to the nearest whole centimeter. Write your answer as two sets of ordered pairs, x being the tread depth and y being the length. Write a linear equation using your ordered pairs.

Gr. 9+

TASK 22

Using a **digital caliper**, measure the height of your ear to the nearest whole centimeter. Given the two points (x,-5) and (2,-17), where x is your measurement, write the equation of the line in general form that passes through both points.

Gr. 10+

TASK 23

Stack two tissue boxes so that the most amount of surface area is exposed. Using a tool of your choice calculate the volume of your stacked tissue boxes to the nearest tenth of a square centimeter and square inch. Show your conversion mathematically.

Gr. 10+

TASK 24

What is the minimum number of post-it notes needed to cover the top of your desk? Find your answer mathematically using the tool of your choice. Represent your answer as an inequality.

Gr. 9+

TASK 25

TASK 26

TASK 27

TASK 28

TASK 29

TASK 30

TASK 31

TASK 32

TASK 33

TASK 34

TASK 35

TASK 36