S.M.ART School **MAC2 Homework Due 11-29-2022**

E1   Solve equation for Z
$$2*(Z + 3) = A*Z*(A - 1)$$

E2   Solve equation for Z
$$2/(Z + 3) = A*Z/(A - 1)$$

A1   Solve equation
$$(4^{22} - 4^{21})/3 = 2^X$$
(Factor out 4^{21})

W1   John drives from A to B with the speed 80 mph. Then he returns from B to A at speed 10 mph. What was his average speed for the entire trip?

H1   What is the slope and the x-intercept of the line $3.5*x + 7*y = 14$

H2   Line L and line M are perpendicular to each other. Point of intersection of those two lines is (1, 1). Y-intercept of line L is 10. What is a slope and X-intercept of the line M

H3   If a line   x + 2*y + 3 = 0 is perpendicular to the a line b*x + 3*y + 1 = 0, how much is b?

H4   The graphs of the equations 2x − 3y = 5 and 4x − 6y = 7
A)   form an acute angle
B)   intersect in two points
C)   are parallel lines
D)   are coincident

Q1   If $(x + y)^2 = 100$ and $(x − y)^2 = 16$, what is the value of $x*y$?

(a) 6,   (b) 10,   (c) 21,   (d) 25,   (e) 29.
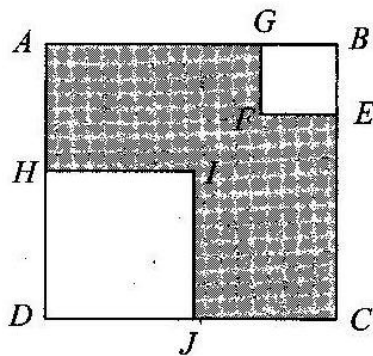
Q2

If two six-sided dice are rolled, each having faces numbered 1 to 6 what is the probability that the product of the two numbers rolled will be odd?

(a) $\frac{1}{6}$, (b) $\frac{1}{4}$, (c) $\frac{1}{3}$, (d) $\frac{1}{2}$, (e) $\frac{7}{12}$.

Q3 If $3x - y = 12$, what is the value of $\frac{8^x}{2^y}$?

(a) 2^{12}, (b) 4^4, (c) 8^2,

(d) The value cannot be determined from the information given

Q4

In the figure above, $ABCD$, $BEFG$, and $DHIJ$ are squares with $AB = 2(DH)$ and $DH = 2(BE)$. If a point is chosen at random inside square $ABCD$, what is the probability it will be in the shaded region?

Q5   If the area of the base of rectangular solid is quadrupled what is the
      percent increase in its volume?
      A)   200%
      B)   300%
      C)   600%
      D)   800%
      E)   900%