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Answers to: III. Transformations

B. Left = 2 Right = -2

C. The angle of inclination of the roof is the same on both sides. However, the height of the roof is increasing on the left and decreasing on the right as we move along the roof.

D. Both angles are approximately 63.4 degrees.

E. Because the angle of inclination on both sides of the roof is the same.

F. The tangent of the angle of inclination of the line (roof) = the absolute value of the slope of these lines.

G. C'(0, 20)

H. $y = \pm 2x + 20$

I. The lines are not perpendicular. Their slopes are not negative reciprocals of each other. They will only be perpendicular if you have a 45 degree angle of inclination on the roof.

J. 4, 16, 36, 64, 100 respectively

K. 1/4, 4/9, 9/16, 16/25 respectively

L. $a_n = \left(\frac{n}{n+1}\right)^2$

M. 2, 4, 6, 8, 10 respectively

N. 1/2, 2/3, 3/4, 4/5 respectively

O. $a_n = \left(\frac{n}{n+1}\right)$

P. 4, 8, 12, 16, 20 respectively

Q. 1/2, 2/3, 3/4, 4/5 respectively

R. $a_n = \left(\frac{n}{n+1}\right)$

S. Formula from L = product of formula from O and formula from R.

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T. -10, -8, -6, -4, -2, 0 respectively
common difference = 2

U. 0, 4, 8, 12, 16, 20 respectively
common difference = 4

V. 4:2 or 2:1

W. The slope of the transformation of line $\mathcal{L}$ under the mapping $\mathcal{L}$: $(x,y) \rightarrow (ax, by)$ is equal to the product of the slope of line $\mathcal{L}$ and $(\frac{b}{a})$.