

Enrichment 5-6

Mystery Mathematician

This mystery mathematician is best known as an inventor. He designed and built a variety of mechanical computing machines that operated on essentially the same principles as today's computers. To discover his identity, fill in the puzzle below.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Perform each of the calculations in Exercises 1–15. Then start from the square marked **. If the result of a calculation is a real number r , move r spaces to the right if r is positive; move r spaces to the left if r is negative. If the result is an imaginary number ai , move a squares up if a is positive; move a squares down if a is negative. After each move, write the letter in its place in the puzzle and continue moving from that square.

R		T	G	H		A	I	V	O
W	C	A		A	B	L	N	H	Y
H	Y		Z	Q	B	N	L	Z	A
L	C	B		R	A	R	R	E	
O	R	I	X	U		J	M	O	T
	V		A		**	R		C	X
N	K	A		U	L	E			G
R	A		W	O	K	N		S	U
W	A		S		Y		T	R	
T	R		K		S	I	B	S	M

- $\frac{\sqrt{-36}}{\sqrt{-4}}$
- $-\frac{16}{2\sqrt{-4}}$
- $-\frac{2\sqrt{-64}}{\sqrt{-16}}$
- $(3 + i) + (-3 - 3i)$
- $i\sqrt{-16}$
- $-2i\sqrt{-16}$
- $i(2i)(3i)$
- $2i - (6 + 2i)$
- $\sqrt{-49} - i$
- $\sqrt{-25} - \sqrt{-9}$
- $5i^2 - 8i^2$
- $\sqrt{-25} + i^2\sqrt{-36}$
- $-i\sqrt{-16}$
- $i^2(4i)$
- $2i^2 + i^2 + i^2 - i^2$