Key

What Did They Call the Duck Who Became a Test Pilot?

Follow the directions given for each section. Cross out each box in the rectangle below that contains a correct answer. When you finish, print the letters from the remaining boxes in the spaces at the bottom of the page.

I For each function, find the indicated values.

(1)	$f(x) = 2x - 5$	A. $f(6)$	B. $f(1)$
(2)	$f(x) = x^2 - 4$	A. $f(12)$	B. $f(-2)$
(3)	$g(x) = x^2 - 7x + 1$	A. $g(3)$	B. $g(0)$
(4)	$h(x) = \frac{x+3}{x^2+x-6}$	A. $h(4)$	B. $h(-1)$

II Find the range of each function for the given domain.

(5)	$f(x) = 3x + 2$	$D = \{-2, 0, 2\}$
(6)	$g(x) = 9 - 5x$	$D = \{-3, -1, 1\}$
(7)	$F(x) = 2x^2 - 1$	$D = \{5, 1, -4\}$
(8)	$h(x) = x^2 - 8x + 3$	$D = \{1, 0, -1\}$
(9)	$f(t) = \frac{t^2 + 4t}{t - 6}$	$D = \{4, 0, -4\}$
(10)	$G(n) = -n^2 + 2n + 3$	$D = \{-2, 1, 4\}$

SK {49, 1, 31}	Y 0	S $\frac{1}{2}$	AF {49, −1, 9}	E {−16, 0}	IL	LY {−16, 8, −2}
BE {24, 14, 4}	ER {−5, 0}	ST −5, 4	QU $-\frac{3}{2}$	IT $\frac{1}{3}$	3	A {24, 14, −7}
DU	CK {−4, 7, 12}	MB 140	IN {−4, 2, 8}	H {−4, 3, 12}	ER {−4, 2, −1}	UP

A	F	L	Y	E	R	Q	U	A	C	K	E	R

What did they call the Duck who Became a Test Pilot? Fly

① $f(x) = 2x - 5$

$f(6) = 2(6) - 5 = 7$

$f(1) = 2(1) - 5 = -3$

② $f(x) = x^2 - 4$

$f(12) = (12)^2 - 4 = 140$

$f(-2) = (-2)^2 - 4 = 0$

③ $g(x) = x^2 - 7x + 1$

$g(3) = (3)^2 - 7(3) + 1 = -11$

$g(0) = (0)^2 - 7(0) + 1 = 1$

④ $h(x) = \dfrac{x + 3}{x^2 + x - 6}$

$h(4) = \dfrac{(4) + 3}{(4)^2 + 4 - 6} = \dfrac{7}{14} = \dfrac{1}{2}$

$h(-1) = \dfrac{(-1) + 3}{(-1)^2 + (-1) - 6} = \dfrac{2}{-6} = -\dfrac{1}{3}$

⑤ $f(x) = 3x + 2$

$f(-2) = 3(-2) + 2 = -4$

$f(0) = 3(0) + 2 = 2$

$f(2) = 3(2) + 2 = 8$

⑥ $g(x) = 9 - 5x$

$g(-3) = 9 - 5(-3) = 24$

$g(-1) = 9 - 5(-1) = 14$

$g(1) = 9 - 5(1) = 4$

⑦ $F(x) = 2x^2 - 1$

$F(5) = 2(5)^2 - 1 = 49$

$F(1) = 2(1)^2 - 1 = 1$

$F(-4) = 2(-4)^2 - 1 = 31$

⑧ $h(x) = x^2 - 8x + 3$

$h(1) = (1)^2 - 8(1) + 3 = -4$

$h(0) = (0)^2 - 8(0) + 3 = 3$

$h(-1) = (-1)^2 - 8(-1) + 3 = 12$

⑨ $f(t) = \dfrac{t^2 + 4t}{t - 6}$

$f(4) = \dfrac{(4)^2 + 4(4)}{(4) - 6} = \dfrac{32}{-2} = -16$

$f(0) = \dfrac{(0)^2 + 4(0)}{(0) - 6} = \dfrac{0}{-6} = 0$

$f(-4) = \dfrac{(-4)^2 + 4(-4)}{(-4) - 6} = \dfrac{0}{-10} = 0$

⑩ $G(n) = -n^2 + 2n + 3$

$G(-2) = -(-2)^2 + 2(-2) + 3 = -5$

$G(1) = -(1)^2 + 2(1) + 3 = 4$

$G(4) = -(4)^2 + 2(4) + 3 = -5$