7.6 Substitution into Algebraic Expressions (One Negative Value)

Te Arawa's Anthem

While crossing *Te Moana-nui-a-Kiwa*[1] between Hawaiki and Aotearoa, the *waka*[2] Te Arawa was hit by a great storm that drove her towards the whirlpool called 'The Steep Descent, Where the World Ends'. This is where all of the lost *waka* from Hawaiki sank. Te Arawa survived thanks to bravery and a chant performed by its *whanau*[3] that drew her back from disaster. Nowadays, Te Arawa *iwi*[4] still use this chant on ceremonial occasions. It ends with the words 'Eke, eke, eke panuku, hui e, taiki e". To find out the English translation of these words, substitute the given values in to the algebraic expressions and evaluate. The letter beside each question and its answer will give the puzzle code.

When $a = -4$, then

$a + 5 =$ **A**

When $a = -10$, then

$4a =$ **C**

When $a = -2$, then

$-7a =$ **D**

When $a = -7$, then

$5 - a =$ **E**

When $a = -3$, then

$2a + 9 =$ **F**

When $a = -2$, then

$7a + 2 =$ **G**

When $a = -2$, then

$10 - 4a =$ **H**

When $a = -7$, then

$2(a + 5) =$ **I**

When $a = -1$, then

$3(2a - 5) =$ **L**

When $a = -3$, then

$4(7 - a) =$ **N**

When $a = -5$, then

$a^2 =$ **O**

When $x = -2$, then

$5x^2 =$ **R**

When $y = -2$, then

$(3y)^2 =$ **S**

When $z = -5$, then

$-z^2 =$ **T**

When $x = -6$, then

$x^2 + 7 =$ **U**

When $a = -20$, then

$\frac{12+a}{4} =$ **V**

When $r = -11$, then

$\frac{5-r}{2} =$ **Y**

[1]*Te Moana-nui-a-Kiwa* (the Pacific Ocean);
[2]*Waka* (canoe);
[3]*Whanau* (people);
[4]*Iwi* (tribe);

36	18	12	13	-21	-4	3	-25	36	10	36	18	12	13	-12	-21	-4	14	12	36
									,										

-4	40	-25	25	3	36	1	3	12	-25	8	11	25	13	43	40	-4	-25	8
											!							

25	13	-2	-4	-40	-25	25	20	8	11
									!