Boot Camp Practice Problems on Factoring

In this activity we see some examples for factoring polynomials.

Exercise 1 *Given that $r(v) = v^2 + 11v + 18$, factor the polynomial.*

Solution

Hint: *If $r(v)$ factors into $r(v) = (x + a)(x + b)$ then what does $a + b$ equal? What about the last times the last i.e. $a * b$?*

Hint: *Think of all the ways to factor 18. Try to find a pair that add up to 11.*

The function $r(v) = v^2 + 11v + 18 = (v + 9)(v + 2)$.

Exercise 2 *Given that $f(v) = v^2 - 8v + 7$, factor the polynomial.*

Solution

Hint: *If $f(v)$ factors into $f(v) = (x + a)(x + b)$ then what does $a + b$ equal? What about the last times the last i.e. $a * b$?*

Hint: *Think of all the ways to factor 7. Since the product is positive and the middle term is negative, both factors must negative.*

Hint: *Try to find a pair for factors of 7that add up to 8, then make them both negative.*

The function $r(v) = v^2 - 8v + 7 = (v - 7)(v - 1)$.

Exercise 3 *Given that $r(v) = v^2 + 9v - 10$, factor the polynomial.*

Solution

Hint: *Since the constant is negative, one root must be positive and one must be negative. Hence find two factors of 10whose difference is 9.*

Hint: *Think of all the ways to factor 10. Try to find a pair that whose difference is 9.*

The function $r(v) = v^2 + 9v - 10 = (v + 10)(v - 1)$.
