

## Notes 15.4 Partial Fractions

1.  $g(x) = \frac{4x-2}{x^2-x-6}$

a) List any real zeros of the function.

b) Why are both discontinuities at  $x = 3$  and  $x = -2$  vertical asymptotes?

Add together  $\frac{2}{x-3} + \frac{2}{x+2}$

These are called **partial fractions**. We can reverse this adding process and break the rational function into partial fractions using the discontinuities.

Substitute  $x = 3$  and cover up the  $(x - 3)$  factor.

Substitute  $x = -2$  and cover up the  $(x + 2)$ .

2.  $g(x) = \frac{7x-2}{x^2-x-2}$

- a) List any real zeros of the function.
- b) Find any discontinuities and identify what type they are.
- c) Resolve the function into partial fractions.

3.  $f(x) = \frac{3x-37}{(x+1)(x-4)}$

- a) List any real zeros of the function.
- b) Find any discontinuities and identify what type they are.
- c) Resolve the function into partial fractions.