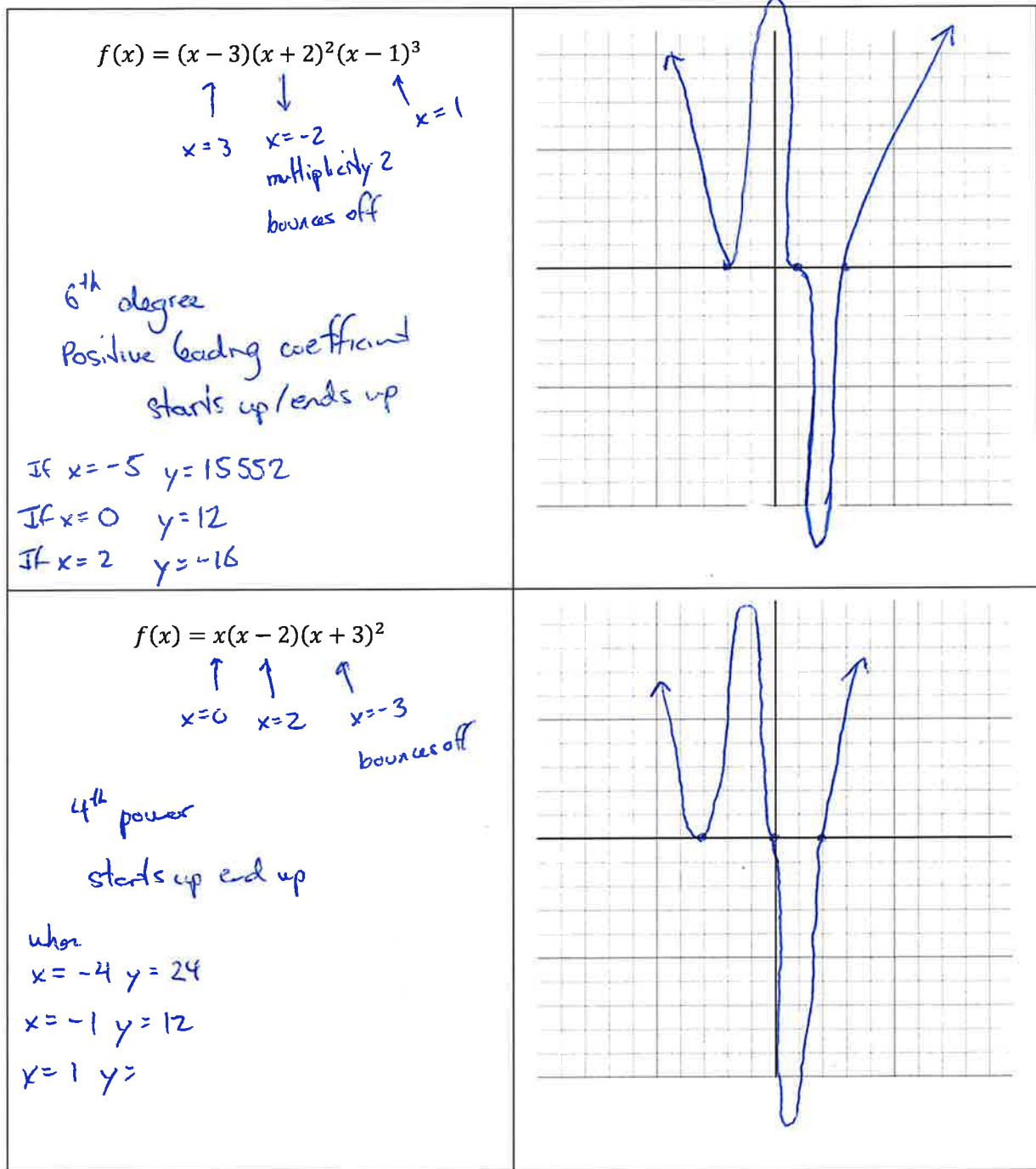
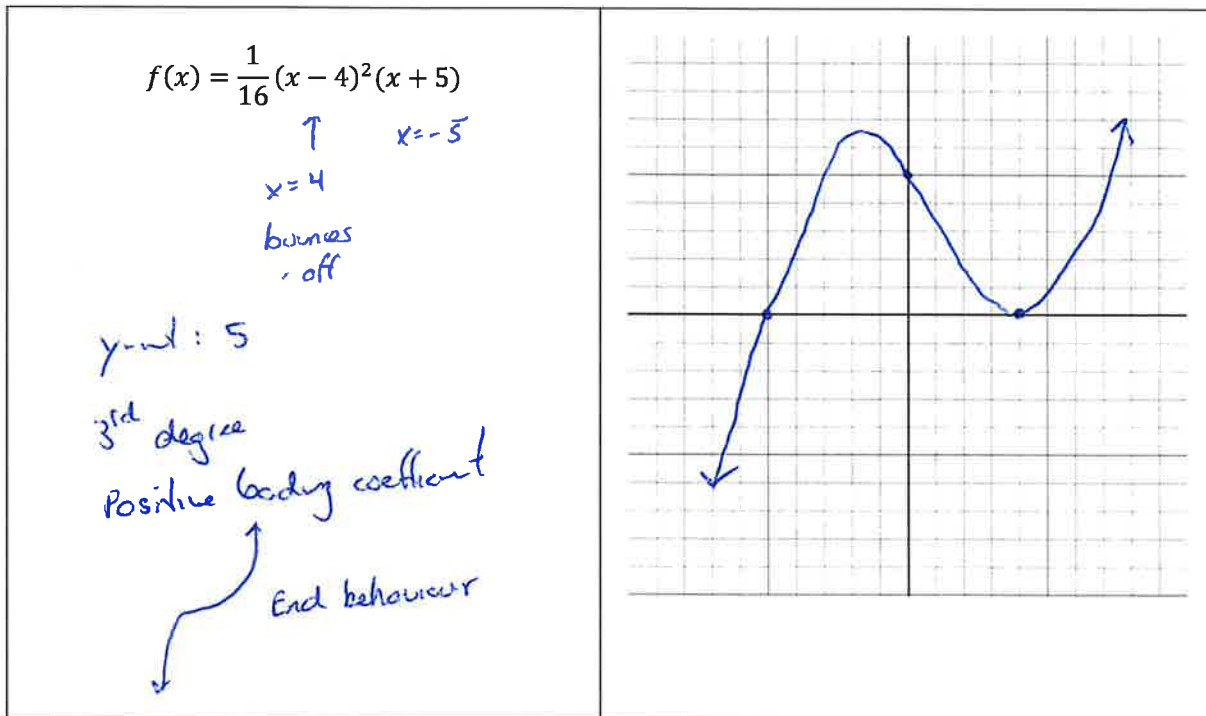


Name: KEY

Section 3.2 – Graphing Polynomials

1. Use of the tools we have discussed in previous sections as well as this to graph a rough sketch of the given polynomials. All intercepts should be exact, peaks and valleys inferred but not exact if necessary. Create your own grid scale to suit your needs.





2. Write the equation of the Polynomial in factored form with the following criteria

<p>Roots at: $-1, -1, 0, 2$</p> <p>Goes through point: $(1, 5)$</p> $y = a(x)(x-2)(x+1)^2$ $5 = a(1)(1-2)(1+1)^2$ $5 = a(1)(-1)(2)^2$ $5 = -4a$ $a = -\frac{5}{4}$ $f(x) = -\frac{5}{4}(x)(x-2)(x+1)^2$	<p>Roots at: $2, 2, -5, 7$</p> <p>y-int: $(0, 4)$</p> $y = a(x-2)^2(x+5)(x-7)$ $4 = a(0-2)^2(0+5)(0-7)$ $4 = a(4)(5)(-7)$ $4 = -140a$ $a = \frac{4}{-140}$ $f(x) = -\frac{1}{35}(x-2)^2(x+5)(x-7)$
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