Difference of cubes: $A^3 - B^3 = (A-B)(A^2 + AB + B^2)$
Law of trigonometric limit $\lim_{x\to 0} \frac{x}{\sin(x)} = 1$ so $\lim_{x\to 0} \frac{\tan(x)}{x} = 1$
Limits.

1. Try plugging indirectory, make sure limit exists from both sides.
2. Factor and simplify, try plugging value in again.
3. Multiply by the conjugate to rationalize if there is a denominator
4. Multiply by GCD of any complex fractions

Product Rule: $h(x) = f(x)g(x)$ then $h'(x) = f'(x)g(x) + f(x)g'(x)$
Quotient Rule: $h(x) = \dfrac{f(x)}{g(x)}$ then $h'(x) = \dfrac{f'(x)g(x) - f(x)g'(x)}{g(x)^2}$
Chain Rule: $h(x) = f(g(x))$ then $h' = f'(g(x))g'(x)$
Trig Derivatives:

- $f(x) = \sin(x)$ then $f'(x) = \cos(x)$
- $f(x) = \cos(x)$ then $f'(x) = -\sin(x)$
- $f(x) = \tan(x)$ then $f'(x) = \sec^2(x)$
- $f(x) = \sec(x)$ then $f'(x) = \sec(x)\tan(x)$
- $f(x) = \csc(x)$ then $f'(x) = -\csc^2(x)$
- $f(x) = \cot(x)$ then $f'(x) = -\csc(x)\cot(x)$

General trig identities:

- $\tan\theta = \frac{\sin\theta}{\cos\theta}$
- $\cot\theta = \frac{1}{\tan\theta} = \frac{\cos\theta}{\sin\theta}$
- $\sec\theta = \frac{1}{\cos\theta}$
- $\csc\theta = \frac{1}{\sin\theta}$
- $1 + \cot^2 x = \csc^2 x$
- $1 - \cos^2 a = \sin^2 a$
- $1 + \tan^2 x = \sec^2 x$
- $\sin(\theta + \phi) = \sin\theta\cos\phi + \cos\theta\sin\phi$
- $\cos(\theta + \phi) = \cos\theta\cos\phi - \sin\theta\sin\phi$

θ		*sin* θ	*cos* θ	*tan* θ	*csc* θ	*sec* θ	*cot* θ
Rad	**Deg**						
0	0	0	1	0	Undef	1	Undef
π/6	30	1/2	√3/2	√3/3	2	2√3/3	√3
π/4	45	√2/2	√2/2	1	√2	√2	1
π/3	60	√3/2	1/2	√3	2√3/3	2	√3/3
π/2	90	1	0	Undef	1	Undef	0