MATH-1206 CALCULUS I
FALL 2020

Recitation 08/28/2020

1. Expand and simplify.

   (a) $(x+3)(3x-4)$

   (b) $(2x+7)^2$

   (c) $\left(\sqrt{c}+\sqrt{a}\right)\left(\sqrt{c}-\sqrt{a}\right)$

2. Simplify the rational expression.

   (a) $\dfrac{3x^2-2x-1}{x^2-49}\cdot\dfrac{x+7}{3x+1}$

   (b) $\dfrac{x^2}{x^2-64}-\dfrac{x+4}{x+8}$

   (c)* $\dfrac{\frac{y}{x}-\frac{x}{y}}{\frac{4}{y}-\frac{4}{x}}$

3. Solve the equation

   (a) $x^2-x-6=0$

   (b) $\dfrac{2x}{x+2}=\dfrac{2x-2}{x}$

(c) $x^4 - 3x^2 + 2 = 0$

(d) $5|x - 4| = 16$

(e) $3x(4 - x)^{-1/2} - 2\sqrt{4 - x} = 0$

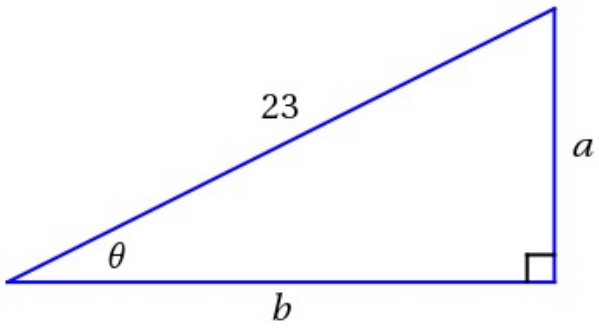
(f)* $-8 < 7 - 3x \leq 31$

4. Convert from degrees to radians. 300°

5. Convert from radians to degrees. $8\pi/9$

6. Find the exact value. $\sin\left(\frac{4\pi}{3}\right)$

7. Express the lengths a and b in the figure in terms of θ.



Appendix The Unit Circle Trigonometry