

$$1. m_1 = \frac{2}{3}, m_2 = -3$$

$$\tan \theta = \left| \frac{\frac{2}{3} + 3}{1 + (\frac{2}{3})(-3)} \right| = \frac{11}{3}$$

$$\theta = 74.7, 105.3$$

$$\boxed{105.3^\circ}$$

$$2. \left| \frac{5(3) + 12(1) - 1}{\sqrt{5^2 + 12^2}} \right| = \frac{26}{13} = 2$$

$$\boxed{2}$$

$$3. \frac{\cos 2\theta}{\sin 2\theta} \cdot \frac{\sin 2\theta}{\cos 2\theta} = 1$$

$$\boxed{1}$$

$$4. \text{Arccos}(x^2 - 3) > 0$$

$$0 < x^2 - 3 \leq 1, 3 < x^2 \leq 4$$

$$\sqrt{3} < |x| < 2$$

$$\boxed{-2 \leq x < -\sqrt{3}, \sqrt{3} \leq x < 2}$$

$$5. {}_6C_3 \left(\frac{1}{2}x^2\right)^3 (-4y)^3 =$$

$$20 \left(\frac{1}{8}x^6\right) x^6 y^3 =$$

$$\boxed{-160x^6y^3}$$

$$6. \frac{5!}{2} = 60$$

$$\boxed{60}$$

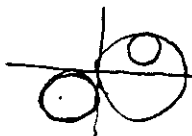
$$7. 1250 \left(1 + \frac{.06}{4}\right)^{4(8)} = 2013$$

$$\boxed{2013}$$

$$8. (x-3)^2 + y^2 = 9$$

$$(x-3)^2 + (y-2)^2 = 1$$

$$(x+2)^2 + (y+2)^2 = 4$$



$$A = \frac{1}{4}$$

$$B = 0$$

$$\left(\frac{1}{4} \times 0\right) = 0$$

$$\boxed{0}$$

$$9. \frac{13}{10} = \frac{-c}{d}$$

$$10. \begin{array}{r} x^2 + 2x + 2 \overline{) x^3 + 4x^2 - 7x - 10} \\ \underline{x^3 + 2x^2 + 2x} \\ 2x^2 - 9x - 10 \\ \underline{2x^2 + 4x + 4} \\ -13x - 14 \end{array}$$

$$y = x + 2$$

$$\boxed{x - y + 2 = 0}$$

$$11. 2 \left(\frac{20}{1 - 9/16} \right) - 20 =$$

$$2(80) - 20 = 80$$

$$\boxed{80}$$

$$12. A = \frac{\sqrt{3}}{2}, B = \frac{\sqrt{6} - \sqrt{2}}{4}$$

$$C = \frac{\sqrt{6} + \sqrt{2}}{4}, D = \frac{\sqrt{3} + 1}{4}$$

$$\left(\frac{\sqrt{3}}{2} \times \frac{\sqrt{6} - \sqrt{2}}{4}\right) \left(\frac{\sqrt{6} + \sqrt{2}}{4} \times \frac{\sqrt{3} + 1}{4}\right) =$$

$$\boxed{\frac{\sqrt{15} + \sqrt{3}}{32}}$$

$$13. 128 - 1 = 127$$

$$\boxed{127}$$

$$14. \frac{n(n+1)}{2} = 100$$

$$n = 13.7$$

$$\boxed{13}$$

$$15. A = \frac{20(21)}{2} = 210$$

$$B = \frac{20(21)(1)}{6} = 2870$$

$$C = \left(\frac{20(21)}{2}\right)^2 = 44100$$

$$D = \frac{20(21)(41)(128)}{30} = 722666$$

$$210 + 2870 + 44100 + 722666 =$$

$$\boxed{769846}$$

CYPRESS LAKE INVITATIONAL
JAN 25, 1997

PRE CALC TEAM SOLUTIONS.

~~CYBER FOR~~

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