

Problem Set 78 — Even Answers

2. 60 l of 70%
40 l of 90%

$$4. \frac{18(60)1000}{(2.54)^3(12)^3} \frac{\text{ft}^3}{\text{min}} \approx 38.140 \frac{\text{ft}^3}{\text{min}}$$

$$6. \approx -16.133i + 16.736j \approx (23.246, 133.948^\circ)$$

$$8. x = -1$$

$$10. m = 16$$

$$12. x = \frac{1}{4} \pm \frac{\sqrt{3}}{4} i$$

- 14a. slightly > 2 : 2.021
b. slightly < 3 : 2.997
c. between 2 and 3: 2.699

$$16. \frac{(x-4)^2}{16} + \frac{(y-1)^2}{36} = 1$$

$$Y_1 = 1 + \sqrt{36 - 2.25(x-4)^2}$$

$$Y_2 = 1 - \sqrt{36 - 2.25(x-4)^2}$$



18.

$$20. \frac{4x^2 + 19x - 26}{(x+6)(x+2)}$$

$$22. \frac{6x-2}{x-2}$$

$$24. 2^{\frac{23}{6}}$$

$$26. \frac{x+3}{x+2}$$

$$28. v = \frac{e^2 p^2}{m} \quad v = 6.25 \times 10^{-27}$$

$$30. S = \frac{TU}{V}$$