IM2 Book 3 Selected Answers

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1. $10\sqrt{2}$
2. (a) $A = \left(\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2}\right),\ B = \left(\frac{\sqrt{3}}{2}, \frac{1}{2}\right)$
   (b) cos()
   (c) sin()
3. (a) cos(40°)
   (b) sin(40°)
4. (a) $m_{OA} = 1,\ m_{OB} = \frac{\sqrt{3}}{3}$
   (b) tan()
5. 470 ft
6. $\frac{3}{5}$
7. Length of line: 3.42 ft
   Distance to bobber: 9.40 ft
8. 23.82 ft
9. (a) π; $(-1, 0)$
   (b) $\frac{\pi}{2}$; $(0, 1)$
10. –
11. –
12. –
13. $\cos A = \frac{\sqrt{21}}{5},\ \tan A = \frac{2}{\sqrt{21}},\ \sin^2 A + \cos^2 A = 1$
14. (a) 79 ft
    (b) $7,873\ \text{ft}^2$
    (c) 135 ft
15. 68°