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 ft^2
    (c) 135 ft
15. 67°

16. 21.6°
17. No
18. 54.8 ft
19. $\frac{2\pi}{3}$
20. $\frac{6\pi}{5}, \frac{9\pi}{5}$
21. $\sin^2\theta + \cos^2\theta = 1$
22. length = 5.22; Area = 12.68
23. $\frac{ab\sin C}{2}$
24. 9.9 in^2