Answers to Unit 3 Wkst D (Review)

1. $\frac{\pi}{2}$
2. undefined
3. $-\frac{\pi}{4}$
4. $\frac{\pi}{3}$
5. $\frac{\pi}{4}$
6. $\frac{5\pi}{6}$
7. $-\frac{\pi}{3}$
8. $-\frac{\pi}{4}$
9. -5
10. $\frac{\pi}{6}$
11. $\frac{\pi}{6}$
12. undefined
13. $\frac{13}{5}$
14. $\frac{\pi}{3}$
15. $\frac{1}{\sqrt{-x^2+2x}}$
16. $\frac{\sqrt{4-x^2}}{x}$
17. $\frac{\sqrt{16-8x^2}}{4-x^2}$
18. $\frac{1}{10x}$
19. The angle of elevation is approximately 1.03 rad or 59.04°
20. $\theta \approx \arctan\frac{1500}{3712.65}$; The angle of elevation to the balloon from the most distant runner is approximately 22°
21. $(-1,\pi),\ \left(-\frac{1}{2},\frac{2\pi}{3}\right),\ \left(\frac{\sqrt{3}}{2},\frac{\pi}{6}\right)$
22. $\left(-\frac{\sqrt{3}}{2},-\frac{\pi}{3}\right),\ \left(-\frac{\sqrt{2}}{2},-\frac{\pi}{4}\right),\ \left(\frac{1}{2},\frac{\pi}{6}\right),\ \left(\frac{\sqrt{3}}{2},\frac{\pi}{3}\right),\ \left(1,\frac{\pi}{2}\right)$