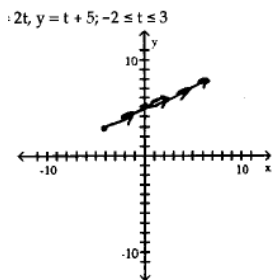


SM3H unit 9 test review answers

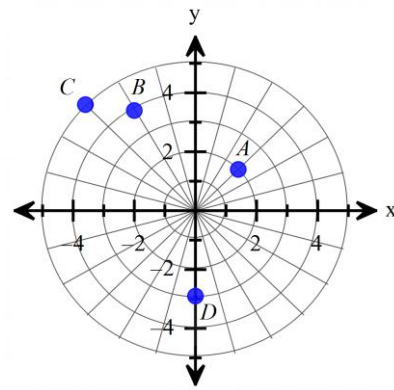
1. $\langle -14, 14\sqrt{3} \rangle$
2. $\langle 9.1\sqrt{3}, 9.1 \rangle$
3. $r = 8, \theta = 210^\circ$
4. $\langle -7, 22 \rangle$
5. -39
6. perpendicular
7. neither
8. parallel
9. $-1 - 2i$
10. $6(\cos 330^\circ + i \sin 330^\circ)$
11. $\sqrt{3} - i\sqrt{3}$
12. $-\frac{\sqrt{2}}{4} + i\frac{\sqrt{2}}{4}$
13. 24
14. $\frac{4}{3} + \frac{4\sqrt{3}}{3}i$
15. $(5\sqrt{2}, 315^\circ)$
16. $(4, 210^\circ)$
17. $(-2, 2\sqrt{3})$
18. $(\frac{3\sqrt{2}}{2}, -\frac{3\sqrt{2}}{2})$
19. $x^2 + y^2 = 10y$
20. $r = -\frac{2}{\sin \theta}$ or $r = -2 \csc \theta$
21. $r = \frac{6}{\cos \theta}$ or $r = 6 \sec \theta$
22. $A = 4, B = 10$
- 23.



t	$x = 2t$	$y = t + 5$
-2	-4	3
-1	-2	4
0	0	5
1	2	6
2	4	7
3	6	8

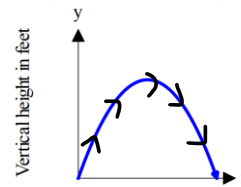
24. $y = (x + 3)^2 + 5$, quadratic

25-28



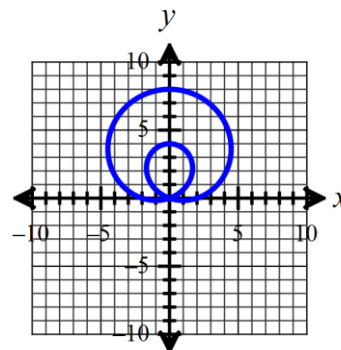
29. 5
30. $\sqrt{29}$
31. $\langle -4.5, 20.1 \rangle$
32. $\theta \approx 27.3^\circ$
33. $\theta \approx 144.0^\circ$

34a.



Horizontal distance in feet

- 34b. 4.7 seconds to reach max height
351.6 feet is the max height
- 34c. 9.4 seconds object was in the air
- 34d. 2435.7 feet is the horizontal distance
35. $10(\cos 53.1^\circ + i \sin 53.1^\circ)$
- 36.



37. $x \approx 114.9$ N
38. $x \approx 2499.7$ lbs.
39. ground speed = 336.5 mph
Drift angle: 3.1° , Heading/course: 86.9°
40. resultant magnitude: 115.6 N, $\theta \approx 21.0^\circ$
41. $-0.72 + 0.19i$