

Answers to Mathematics Review Questions

Part A:

1. a) -1 b) -10 c) 8
2. a) -15 b) -42 c) 36
3. a) -6 b) 7
4. a) -27 b) -24 c) $5\frac{7}{8}$ d) $21\frac{2}{3}$
5. a) -3 b) -8 c) 20 d) $\frac{1}{2}$
6. $2\frac{7}{10}$
7. 120
8. $4,900$ feet
9. a) $\$16$ b) $\$22$
10. a) $\$150$ b) $\$27$
11. a) $4(x+4)(x-4)$ b) $(2x+9)(x-4)$ c) $3x(x+1)(x-4)$
12. a) $\frac{7}{x^3}$ b) A^8B^7 c) $\frac{x^2z}{y}$
13. a) $t = -\frac{3}{4}, t = 3$ b) $t = \frac{2}{7}$ c) $t = 8\frac{2}{7}$ d) $t = 4, t = -\frac{5}{2}$
14. $(\frac{3}{2}, \frac{15}{2})$
15. -11
16. $x = 0, x = 6, x = -6$
17. $5m^2h + 2$
18. a) $-4x^3 + 6x^2 - 2x$ b) $-6E^7 + 21E^5 - 30E^4$
19. a) $m = \frac{5}{7}, y = -2, x = \frac{14}{5}$ b) $m = \frac{3}{2}, y = -2, x = \frac{4}{3}$
c) slope undefined, no y-intercept, $x = -3$ d) $m = 0, y = 7$, no x-intercept

20. a) $A = -\frac{5}{2}B - 11$ b) $P = \frac{2Q + 28}{Q - 8}$

21. $38A - 8B - 26C - 18$

22. $-7\frac{23}{36}$

23. 0.9465

24. $x = 2, y = -5$

25. Domain = $[-1, \infty)$, Range = $[3, \infty)$

26. $\frac{x-2}{2}$

Part B:

27. a) $\frac{8}{17}$ b) $\frac{15}{17}$ c) $\frac{8}{15}$ d) $\frac{240}{289}$ e) $\frac{161}{289}$

28. a) $-\frac{1}{2}$ b) $-\frac{\sqrt{3}}{3}$ c) $-\frac{\sqrt{2}}{2}$

29. $\frac{3\pi}{4}, \frac{7\pi}{4}$

30. $12\sqrt{3}, 24$

31. $\frac{\pi}{6}, \frac{5\pi}{6}$

32. $\frac{1}{\cos^2(R)}$

33. a) $\frac{3\sqrt{3}}{2}$ b) $2\sqrt{2}$

34. $\frac{2\sqrt{13}}{13}, -\frac{3\sqrt{13}}{13}$

35. -1, 0

36. a) 100 feet b) $50\sqrt{3}$ feet

37. $\frac{1}{2}$