

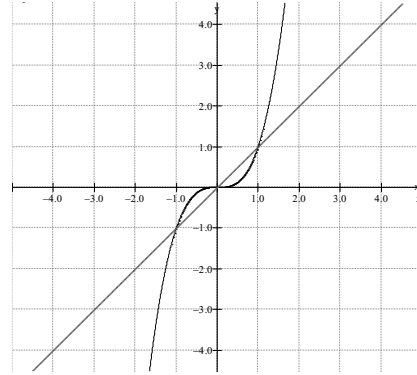
PreCalculus Summer Packet Solutions

1. a) i) no ii) no

2.

b) i) yes ii) no

c) i) yes ii) yes



3. $h=2, k=-3$

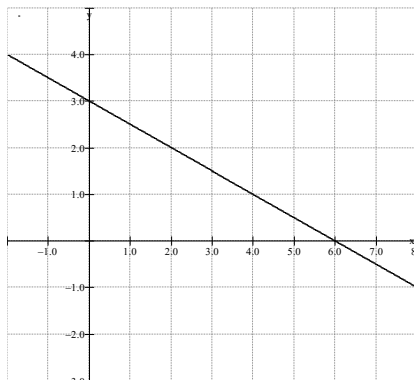
4. vertex: $\left(\frac{7}{4}, -\frac{81}{8}\right)$ intercepts: $\left(-\frac{1}{2}, 0\right), (4, 0)$

5. Domain: $[1,4]$ Range: $[0,4]$

6. $(-1,2)$: YES $(2,-7)$: YES $(0,1)$: YES $(1,3)$: NO

7. A: YES B: NO

8.



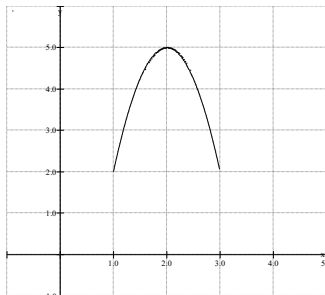
9. $t^2 + 4t$

Shaded below the line

10. $\left\{ x : x = -1, 0, \frac{3}{2} \right\}$

11. a) 1.25 second b) 37 feet c) 2.77 seconds

12.



13. $\frac{x-6}{x-4}$

14. $\frac{4a+36}{a^2-a-6}$

15. $x^2 + 4x + 1$

16. $3x^2 + 2x + 1 - \frac{9}{x+2}$

17. $\frac{1}{16}$

18. $x=4, x=-1$

19. $x=120. -\frac{11}{10} + \frac{17}{10}i$ 21. i) $\{x: x \neq -1, 1\}$

ii) $\{x: x \geq 2\}$

22. (4,5) and (-1,0)

23. $x = \frac{1}{6} \pm \frac{\sqrt{11}}{6}i$

24. a) $x < 2$ and $x \geq -3$ so the solution set is $[-3, 2)$

b)

25. $\frac{6x-18}{x^2+5x+6}$

26. a) $\frac{3\sqrt{2}}{2}$ b) $\frac{\sqrt{10}-\sqrt{2}}{2}$

27. $x = 8$

28. $x = -\frac{1}{4}$

29. 5 inches

30. $x = \pm 5$