

1. a. $(-1, 6)$
- b. $y = x + 7$
- c. 7
- d. -7
- e. $y = x - 4$
- f. $y = -x + 6$
- g. 45°

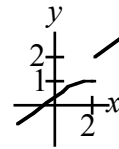
2. a. parabolic
- b. $-1, 1.5$
- c. $-1, 1.5$
- d. -3
- e. $(0.5, -3)$
- f. $x = 1/2$
- g. $(-0.707, -1.293)$
 $(0.707, -2.707)$
- h. $P(x) = -2(x-2)(x-3)^2(x+1)^3(x+4)$
- i. $0.438, 4.562$

3. $AB = \begin{bmatrix} 11 & 6 & 5 & 10 \\ -10 & 3 & -1 & -4 \end{bmatrix}$
 $AC : \text{DNE}, BA : \text{DNE}, A + B : \text{DNE}$
 $AC^T = \begin{bmatrix} 14 & 11 \\ 11 & 17 \end{bmatrix}$
 $A + C = \begin{bmatrix} 2 & 4 & 6 \\ -2 & 0 & 8 \end{bmatrix}$
 $\text{Det}(D) = 5$
 $D^{-1} = \begin{bmatrix} 2/5 & -1/5 \\ -1/5 & 3/5 \end{bmatrix}$

4. a. $\bar{x} = 84.25, \tilde{x} = 84.5,$
mode = 84, $\sigma = 5.5396$
- b. $\bar{x} = 1.707, \tilde{x} = 2,$
mode = 1, $\sigma = 1.0427$
- c. 95% : $0.0388 < p < 0.0812$
99% : $0.0281 < p < 0.0919$
- d. $0.2525, 0.0228, 0.6207, x_1 = 16.4268$
 $x_4 = 23.2059, x_5 = 15.8940$

5. a. $\cos x = -\sqrt{5}/3, \tan x = -2/\sqrt{5}$
 $\cot x = \sqrt{5}/2, \sec x = -3/\sqrt{5}, \csc x = 3/2$
- b. $2\pi/3, 10\pi/9$
- c. 137.510°
- d. $10\pi/3$ inches
- e. $0, 3.234$
- i. $\sqrt{3}/2, -\sqrt{3}, \sqrt{2}$
- j. $g(x) = 7 + 3\cos\left(\frac{\pi}{5}(x-2)\right)$
- k. $5.661 < x < 8.339, 15.661 < x < 18.339$
- l. $g(-4) = 4.573$

6. a.



one of many examples

- b. -2
- c. 3
- d. (i) 0
(ii) -3
(iii) 9
(iv) $y = -1 - 3(x-1)$ or
 $y = -3x + 2$