1. Express the interval in terms of inequalities, and then graph the interval.

   (a) $[2, 8)$
   (b) $[-6, -\frac{1}{2}]$

2. Graph the set.

   (a) $(-\infty, -4) \cup (4, \infty)$
   (b) $(-\infty, 6) \cap (2, 10)$

3. Solve $\dfrac{3x + 1}{4x - 2} = 5$.

4. Solve $x^2 + x - 6 = 0$.

5. Solve $|x - 5| < 2$.

6. Solve $|3x + 2| \geq 4$.

7. Solve $x^2 + x - 6 > 0$.

8. Solve $x^2 + 1 = 6x$ by completing the square.

9. Solve $2x^2 + 20x - 3 = 0$ by completing the square.

10. Solve $x^2 - x - 2 < 0$.

11. Find the following without using your calculator:
    (a) $\sin(\pi/4)$

    (b) $\cos(\pi/4)$

    (c) $\tan(\pi/4)$

    (d) $\tan(\pi/3)$

    (e) $\sec(\pi/3)$

(f) $\cos(\pi/6)$

(g) $\cot(\pi/6)$

(h) $\csc(\pi/6)$

12. Solve $\sqrt{3}\tan(x) = 1$ if $0 \le x < 2\pi$.

13. Solve $2\cos(x)\sin(x) + \cos(x) = 0$ if $0 \le x < 2\pi$.

14. Solve $2\,|3x - 15| < 6$.

15. Find the center and radius of the circle $3x^2 + 3y^2 + 9x - 18y + 2 = 0$

16. Find the equation of the line parallel to $2x - \frac{3}{5}y + 7 = 0$ passing through the point $(-3, 4)$.