1. Label the unit circle with all coordinates, slopes, and angles (degrees and radians):
Convert the following angles to either degrees or radians:

2. 270°
3. 15°
4. 324°
5. \(\frac{2\pi}{3}\)
6. 14\pi
7. \(\frac{25\pi}{2}\)

8. Using the information given below, solve for the exact value of each of the remaining functions:

\[
\cos(\theta) = -\frac{5}{13} \text{ and } \sin(\theta) < 0
\]

a. \(\sin(\theta) = \)
b. \(\tan(\theta) = \)
c. \(\csc(\theta) = \)
d. \(\sec(\theta) = \)
e. \(\cot(\theta) = \)
f. What quadrant is the triangle located in?
9. Graph the following functions in the space provided. Label at least 5 points and all relevant asymptotes.

   a. \( f(x) = 2 \sin \left( x + \frac{\pi}{2} \right) \)

   b. \( f(x) = \cos(\pi x) - 2 \)
c. \( f(x) = \tan\left(\frac{1}{\pi}x\right) \)

d. \( f(x) = 2\arcsin x - \pi \)
e. \[ f(x) = \frac{1}{3} \arccos(x + 1) \]

f. \[ f(x) = \arctan(\pi x) \]
Solve the following systems of equations:

10. \( y = x^2 - 4x \)
    \[ y = -2x + 4x + 16 \]

11. \( 6x + 4y - 2 = 2x^3 + 6x^2 + 2y \)
    \[ y = 6 - 2x^2 - 2x \]

12. \( y = x(x^2 + 6x + 20) \)
    \[ y = -6x^2 - 24x - 48 \]
Solve the following expressions, simplifying as far as possible:

13. \( \frac{14}{3} - \frac{9}{21} \)

14. \( \frac{1}{2} \div \frac{4}{3} \)

15. \( \frac{9a^7b^3c^{10}d^7}{12a^4b^1c^{12}d} \)

16. \( \frac{12x^2yz^2}{x^3y^2z} + \frac{x^2yz^3}{xyz} \)

17. \( \frac{q^2rs^3}{4pq} \div \frac{qr^3s}{2pq} \)
For the following functions, simplify the expression

\[
\frac{f(x + h) - f(x)}{h}
\]

as far as possible (without an \(h\) in the denominator):

18. \(f(x) = 3x + 5\)

19. \(f(x) = 12 - x\)

20. \(f(x) = x^2 + 6x + 9\)