1. **(F2.5, C6.1 - R,E)** (**CI & CA**) Given $g(x) = \frac{x+7}{2x-5}$, determine:
   (Cirrito 5.3.5, p144)
      a. The value(s) of the x- and y-intercepts.
      b. The equation(s) of the asymptote(s).
      c. Sketch the function.
      d. Determine the equation of $y = g^{-1}(x)$

2. **(T3.5 - R)** (**CI**) Quadratic Trig Equations. Each of these equations has already been factored for you. Solve for x on the domain of $-2\pi \leq x \leq 2\pi$.

      a. $\cos x \,(\sqrt{2}\sin x + 1) = 0$ b. $(\cos x - 1)(2\cos x + 1) = 0$

3. **(T3.5 - E)** (**CI**) Quadratic Trig Equations: Factor, then solve the following expressions for x on the domain of $0 \leq x \leq 2\pi$:

      a. $1 - \cos^2 x = 0$ b. $1 - 4\sin^2 x = 0$ c. $\sin x - \sin^2 x = 0$

4. **(C6.3 - N)** (**CA**) Graph the function $g(x) = e^{-0.25x}\cos(x)$ on the domain of $-\pi < x < 2\pi$ on your TI-84 and hence determine:
   (Cirrito 20.2.2, p651)
      a. the x-coordinate(s) of the extremas.
      b. the domain interval(s) in which the function values are increasing.
      c. the estimated value(s) of the x-coordinates of the inflection point(s).
      d. the domain interval(s) in which the function is concave down.
      e. Include a sketch, labelling the important points from (a) and (c).

5. **(T3.5 - E) (CI)** Equations & Identities. Each of these equations involves a double angle. Solve for x on the domain of $0 \le x \le 2\pi$:

   a. $\sin(2x) - \sin(x) = 0$ b. $\cos(x) - \cos(2x) = 0$

6. **(SP5.7 - N) (CA)** The random variable, X, has a probability distribution as shown on the table:
   (Cirrito 16.1, p527)

$X = x$	5	10	15	20	25
$P(X = x)$	$\frac{3}{20}$	$\frac{7}{30}$	k	0.3	$\frac{13}{60}$

   a. Find the value of k.
   b. Find $P(x > 10)$
   c. Find $P(5 < x \le 20)$
   d. Find the mean (now called **expected value**) and the standard deviation and the variance.

7. **(A1.2, F2.7 - E)** **(CI)** Solve the following logarithmic equations:
   (Cirrito 7.4, p244)
   a. $\ln(3x + 1) - \ln(4 - x) = \ln(4)$
   b. $\log_2(3x^2 + 28) - \log_2(3x - 2) = 1$

8. **(T3.6 - R) (CA)** The following diagram shows $\triangle$ABC. The area of $\triangle$ABC is 22 cm³.
   (Cirrito 9.5, p291)
   a. Find x.   b. Find BC.   c. Find $\angle$ACB.