1. **(F2.3 - R,E) (CA)** Given the function $g(x) = x^3 - 3x^2 - 4x + 5$.
   (Cirrito 10.3, p337)
   a. Determine the stationary points on $g(x)$.
   b. Hence write the interval of increase and decrease on $g(x)$.
   c. Write down the end-behavior of this function.
   d. Find the zeros of $g(x)$.
   e. Hence write down where $g(x) > 0$.

2. **(T3.5 - R) (CI)** Solve the following trig equations on the interval $0 \le x \le 2\pi$:
   (Cirrito 10.4, p.351)
   a. $2\sin^2(\theta) - 1 = 0$
   b. $cos(2\theta) - 1 = 0$

3. **(NA1.9, F2.10 - R) (CI)** Express y in terms of x if;
   (Cirrito 7.2, p.225)
   a. $2 + log_{10}x = 4log_{10}y$
   b. $lnx = ln(a - by) - lna$

4. **(F1.8 - R) (CI)** Let $g(x) = e^x$ and $h(x) = \sqrt{x}$.
   (Cirrito 5.4, p.148)
   a. Find $h(g(log_e 4))$.
   b. Consider the function $f(x) = (g \circ h)(x)$. Determine the equation of $f^{-1}(x)$.

5. **(GT 3.4, R,E) (CI)** Find the exact value of:
   (Cirrito 10.1, p.324)

   a. $sin\pi$
   b. $cos\frac{3\pi}{4}$
   c. $tan\frac{7\pi}{4}$
   d. $tan\frac{5\pi}{3}$
   e. $sin\frac{7\pi}{6}$
   f. $cos\frac{5\pi}{3}$
   g. $sin\frac{5\pi}{4}$
   h. $cos\frac{11\pi}{6}$

6. **(T3.5 - R) (CI)** Quadratic Trig Equations. Solve each of the following factored equations on the domain of $0 \le x \le 2\pi$.
(Cirrito 10.4, p.351)
   a. tan *x* (tan *x* + 1) = 0
   b. (sin *x* + 1)(2sin *x* - 1) = 0

7. **(NA1.9, R) (CA)** Given the binomial $(1+2x)^8$,
(Cirrito 4.1, p.95)
   a. Find the term of x^5 in the expansion of the binomial.
   b. Find the coefficient of the x^3 term in the binomial expansion.

8. **(SP5.6 - R) (CA)** Two events *A* and *B* are such that p(*A*) = 0.6 and p(*B*) = 0.45 and p(*A* ∩ *B*) = 0.3.
(Cirrito 15.2, p.509)
   a. Are the events dependent or independent?
   b. Find the probability of the following events:

      i. P(*A* U *B*) ii. P(*A* | *B*) iii. P(*B* | *A*) iv. P(*A* | *B*`)