

Solutions. The solutions to Test 1.

1. (a) It is well known that Newton and Leibniz are jointly credited as the founders of modern calculus.

1. (b) T The area of a circle is πr^2 .

1. (c) There is only one real root There are two distinct real roots
 There are two complex roots None of these

2. We use the quadratic formula:

$$x = \frac{3 \pm \sqrt{9 - 4 \cdot 2 \cdot 2}}{2 \cdot 2} = \frac{3 \pm \sqrt{-7}}{4} = \boxed{\frac{3 \pm \sqrt{7}i}{4}}$$

3. Ans:

$$\boxed{5x + 3y = 26}$$

Apparently the given line has slope $m = 3/5$, so $m_{\perp} = -5/3$. The rest is left to the reader.