Write all your answers on a separate sheet. These first ten questions are 1 point each. It is very important that you show clearly any work you had to do to get the answer. Check your answers match the answers below.

(1) Solve: $\sqrt{m+5} = 3$

(2) Solve: $\sqrt{2x-3} + 1 = 3$

(3) Solve: $\sqrt{2x} = \sqrt{x+1}$

(4) Solve: $\sqrt{x+1} + \sqrt{x} = 1$

(5) Evaluate: $(-8)^{4/3}$

(6) Simplify: $b^{2/3} \cdot b^{3/2}$

(7) Simplify: $(8p^{3/2} \cdot q^{5/2})^{2/3}$

(8) Evaluate: $(5 + 4i) - (3 + 2i)$

(9) Divide and write in standard form: $\dfrac{2+3i}{4+3i}$

(10) Simplify: i^{38}

These next ten questions are 3 points each. Show clearly all your working out and reasoning.

(11) Solve: $\sqrt{x} = 9$

(12) Solve: $\sqrt{3x+3} - 6 = 0$

(13) Solve: $\sqrt{48-2x} = x$

(14) Write this expression in radical form: $x^{3/4}$

(15) Find: $1000^{1/3}$

(16) Find: $(-32)^{-2/5}$

(17) Simplify: $\dfrac{(x^2 y^{1/3})^3}{x^5}$

(18) Simplify and write as a multiple of i: $\sqrt{-400}$

(19) Multiply and write in standard form: $(1 - 2i)(3 + 4i)$

(20) Divide and write in standard form: $\dfrac{2i}{7 + i}$

Answers to questions (1)-(10):

(1) $m = 4$

(2) $x = 7/2$

(3) $x = 1$

(4) $x = 0$

(5) 16

(6) $b^{13/6}$

(7) $4pq^{5/3}$

(8) $2 + 2i$

(9) $\frac{17}{25} + \frac{6}{25}i$

(10) -1