1. $\lim_{h\to 0} \dfrac{e^{2(x+h)} - e^{2x}}{h}$ is

a) 1 b) 0 c) $2e$ d) $2e^x$ e) e^2

2. What is $\lim_{h\to 0} \dfrac{\sqrt{2(x+h)} - \sqrt{2x}}{h}$?

a) $\dfrac{1}{\sqrt{2x}}$ b) $\dfrac{1}{2\sqrt{2x}}$ c) $\sqrt{2x}$ d) $2\sqrt{2x}$ e) 0

3. If $f(x) = x^2e^x$ find a point where the tangent is horizontal.

a) $(0, 1)$ b) $(0, e^2)$ c) $(-2, \frac{4}{e^2})$ d) $(0, -2)$ e) $(-2, 4e^2)$

4. Find the equation of the tangent to the graph $y = 3x - (x^2 + 9)^{1/2}$ at $(4, 7)$.

a) $y + 7 = \frac{5}{11}(x - 4)$ b) $y - 4 = \frac{11}{5}(x - 7)$ c) $5(y - 7) = 11(x - 4)$

d) $11(y - 7) = 5(x - 4)$ e) $5(y + 7) = 11(x + 4)$

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1.
Answer: d
CodePath: EAS.APC.D.A.14

2.
Answer: a
CodePath: EAS.APC.D.A.6

3.
Answer: c
CodePath: EAS.APC.E.C.21

4.
Answer: c
CodePath: EAS.APC.E.C.54