Section 18.1: Complex Numbers - Worksheet

#119. If $z_1 = -1 + i$ and $z_2 = 4 + 6i$, find the rectangular forms of the following complex numbers

(a) $z_1 z_2$ (b) $\dfrac{z_1}{z_2}$ (c) z_1^{18}

#120. Find all complex solutions to the following equations. Write your answers in rectangular form.

(a) $z^3 = -125i$ (c) $z^6 = -64$ (e) $z^3 = 8i$

(b) $z^2 = -1 + i\sqrt{3}$ (d) $z^4 = 81$ (f) $z^3 = 216$

#121. Find all complex solutions to the following equations. Write your answers in rectangular form

(a) $z^2 - 6z + 25 = 0$ (b) $z^4 - 8z^2 + 64 = 0$