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d) $j^5 \times j^3$

$$j^5 = j^2 \times j^2 \times j = -1 \times -1 \times j = j$$

$$j^3 = j^2 \times j = -j$$

$$\boxed{j - j}$$

e) $\bar{z}_1 z_2 \bar{z}_3$

$$(3 - 7j) \times (2 - 10j) \times (-4 + j)$$

$$(3 - 30j - 7j + 70j^2) (-4 + j)$$

$$(3 - 37j + 70) (-4 + j)$$

$$(73 - 37j) (-4 + j)$$

$$-292 + 73j + 148j - 37j^2$$

$$\boxed{-255 + 221j}$$

f) $\boxed{-1}$