

DRILL

$$\textcircled{1} (4i)(3i) = 12i^2 = 12(-1) = \boxed{-12}$$

$$\textcircled{2} \text{ Simplify: } \sqrt{-50} = \sqrt{50} \sqrt{-1}$$

4, 9, 16, 25, 36...

$$= \sqrt{25} \sqrt{2} i$$
$$= \boxed{5i\sqrt{2}}$$

$$\textcircled{3} (4i^3)(-6i) =$$
$$= -24i^4 = -24(1) = \boxed{-24}$$

Operations with complex #'s $(a + bi)$

ADD / SUBTRACT: $(\underline{5} + \underline{3i}) + (\underline{4} + \underline{2i})$

$$= \boxed{9 + 5i}$$

ADD THE REAL #'S & ADD THE IMAGINARY #'S



Ex: $(-2 + 5i) - (8 - 6i)$

$$= \boxed{-10 + 11i}$$

TRY IT:

$$\textcircled{1} \quad (-\underline{5} + \underline{8i}) + (-\underline{9} - \underline{2i}) = \boxed{-14 + 6i}$$

$$\textcircled{2} \quad (\underline{7} - \underline{10i}) \overset{\downarrow}{-} (\underline{4} + \underline{3i}) = \boxed{3 - 13i}$$

$$\textcircled{3} \quad (\underline{5} + \underline{9i}) \overset{\downarrow}{-} (-\underline{3} - \underline{12i}) = \boxed{8 + 21i}$$

MULTIPLICATION :

Ex:

$$\begin{aligned} (3 + 4i)(-2 + 5i) &= \underline{-6} + \underline{15i} - \underline{8i} + \underline{20i^2} \\ &= -6 + 7i + 20(-1) \\ &= -6 + 7i - 20 \\ &= \boxed{-26 + 7i} \end{aligned}$$

Ex: $(8 - 2i)(7 + 4i) = 56 + 32i - 14i - 8i^2$
 $= 56 + 18i - \underline{8}(\underline{-1})$
 $= 56 + 18i + 8$
 $= 64 + 18i$