Day 2 on 5-9
Simplify.

$i^{29} = i^{28} \cdot i$
$= 1 \cdot i = \boxed{i}$

EX 7. $i^{35} = i^{34} \cdot i = -1 \cdot i = \boxed{-i}$

EX 8. $(6 - 4i) + (1 + 3i) = \boxed{7 + -i}$
$7 - i$ or

$* \boxed{a + bi}$

EX 9. $(4 - 6i) - 1(1 + 3i) = 4 - 6i - 1 - 3i$
$= \boxed{3 - 9i}$

EX 10. $\dfrac{5i}{(3 + 2i)} \cdot \dfrac{(3 - 2i)}{(3 - 2i)}$

$= \dfrac{15i - 10i^2}{9 - 6i + 6i - 4i^2} = \dfrac{15i - 10(-1)}{9 - 4(-1)} = \dfrac{15i + 10}{9 + 4}$

$= \boxed{\dfrac{15i + 10}{13}}$

$= \boxed{\dfrac{15i}{13} + \dfrac{10}{13}}$

OR

$= \boxed{\dfrac{10}{13} + \dfrac{15i}{13}}$

EX 11. $\dfrac{4 - i}{5i}$

$\dfrac{(4 - i)}{5i} \cdot \dfrac{-5i}{-5i}$

$= \dfrac{-20i + 5i^2}{-25i^2} = \dfrac{-20i + 5(-1)}{-25(-1)}$

$= \dfrac{-5 - 20i}{25} = \dfrac{-5}{25} - \dfrac{20i}{25}$

$= \boxed{\dfrac{-1 - 4i}{5}}$ or $\boxed{\dfrac{-1}{5} - \dfrac{4i}{5}}$

<u>**Solve the equation**</u>.

EX 12. $3x^2 + 48 = 0$

$$-48 \quad -48$$

$$\frac{3x^2}{3} = -\frac{48}{3}$$

$$\sqrt{x^2} = \sqrt{-16}$$

$$x = \pm\sqrt{-16} = i\sqrt{16}$$

$$\boxed{x = \pm 4i}$$

EX 13. $5y^2 + 20 = 0$

$$-20 \quad -20$$

$$\frac{5y^2}{5} = \frac{-20}{5}$$

$$\sqrt{y^2} = \sqrt{-4} = i\sqrt{4}$$

$$\boxed{y = \pm 2i}$$