

10, 6, 9, 8, 3

$$3. \quad 3\sqrt{12} - \sqrt{48}$$

$\begin{matrix} \uparrow \\ 3 \end{matrix} \begin{matrix} \uparrow \\ 4 \end{matrix}$
 $\begin{matrix} \uparrow \\ 4 \end{matrix} \begin{matrix} \uparrow \\ 12 \end{matrix}$
 $\begin{matrix} \uparrow \\ 2 \end{matrix} \begin{matrix} \uparrow \\ 2 \end{matrix}$
 $\begin{matrix} \uparrow \\ 4 \end{matrix} \begin{matrix} \uparrow \\ 3 \end{matrix}$

$$3. \quad 2\sqrt{3}$$

$$6\sqrt{3} - 4\sqrt{3} = 2\sqrt{3}$$

$$6. \quad 7\sqrt{3} - 3\sqrt{7}$$

$$8. \quad \sqrt{5} + \sqrt{25} + \sqrt{125}$$

$\begin{matrix} \uparrow \\ 5 \end{matrix} \begin{matrix} \uparrow \\ 25 \end{matrix}$
 $\begin{matrix} \uparrow \\ 5 \end{matrix} \begin{matrix} \uparrow \\ 5 \end{matrix}$

$$\sqrt{5} + 5 + 5\sqrt{5}$$

$$6\sqrt{5} + 5$$

$$9. \quad \sqrt{50} + \sqrt{63} - \sqrt{32}$$

$\begin{matrix} \uparrow \\ 5 \end{matrix} \begin{matrix} \uparrow \\ 10 \end{matrix}$
 $\begin{matrix} \uparrow \\ 3 \end{matrix} \begin{matrix} \uparrow \\ 21 \end{matrix}$
 $\begin{matrix} \uparrow \\ 2 \end{matrix} \begin{matrix} \uparrow \\ 16 \end{matrix}$
 $\begin{matrix} \uparrow \\ 2 \end{matrix} \begin{matrix} \uparrow \\ 3 \end{matrix}$
 $\begin{matrix} \uparrow \\ 2 \end{matrix} \begin{matrix} \uparrow \\ 4 \end{matrix}$
 $\begin{matrix} \uparrow \\ 2 \end{matrix} \begin{matrix} \uparrow \\ 2 \end{matrix}$

$$5\sqrt{2} + 3\sqrt{7} - 4\sqrt{2}$$

$$\sqrt{2} + 3\sqrt{7}$$

$$10. \quad \sqrt{18} + \sqrt{24} - \sqrt{54}$$

$\begin{matrix} \uparrow \\ 2 \end{matrix} \begin{matrix} \uparrow \\ 9 \end{matrix}$
 $\begin{matrix} \uparrow \\ 2 \end{matrix} \begin{matrix} \uparrow \\ 12 \end{matrix}$
 $\begin{matrix} \uparrow \\ 2 \end{matrix} \begin{matrix} \uparrow \\ 27 \end{matrix}$
 $\begin{matrix} \uparrow \\ 3 \end{matrix} \begin{matrix} \uparrow \\ 9 \end{matrix}$
 $\begin{matrix} \uparrow \\ 3 \end{matrix} \begin{matrix} \uparrow \\ 3 \end{matrix}$

$$3\sqrt{2} + 2\sqrt{6} - 3\sqrt{6}$$

$$3\sqrt{2} - \sqrt{6}$$

HW Assessment

4/13

$$4, \sqrt{27} + 2\sqrt{75}$$

imaginary numbers

$$\sqrt{9} = 3$$

$$(\sqrt{-9})^2 = -9$$

$$(3)(3) = 9$$

$$(-3)(-3) = 9$$

$$\sqrt{-9} = \sqrt{-1 \cdot 9} = \sqrt{-1} \cdot \sqrt{9}$$

$$(\sqrt{-1})^2 = -1$$

$$i^2 = -1$$

$$i = \sqrt{-1}$$

i i

$$\sqrt{-36} = i\sqrt{36} = 6i$$

$$\sqrt{-49} = 7i$$

$$\sqrt{-81} = 9i$$

$$\sqrt{-8} = i\sqrt{8} = i \cdot 2\sqrt{2}$$

$\boxed{2} \uparrow 4$
 \uparrow
 $\textcircled{2} \textcircled{2}$

$$\textcircled{2i\sqrt{2}} \quad 2\sqrt{2}i$$

$$-2\sqrt{-4} = -2(2i) = -4i$$

$$3\sqrt[3]{-32} = 3 \cdot 4i\sqrt{2} = 12i\sqrt{2}$$

$\boxed{2} \uparrow 16$
 $\uparrow \uparrow$
 $4 \quad 4$
 $\uparrow \quad \uparrow$
 $\textcircled{2} \quad \textcircled{2}$

$2 \cdot 2\sqrt{2}$

$$3i \cdot 5i = 15i^2$$

$$15(-1)$$

$$\textcircled{-15}$$

$$\textcircled{\begin{array}{l} i^2 = -1 \\ i = \sqrt{-1} \end{array}}$$

$$2i \cdot 15i = 30i^2 = -30$$

your turn

1) $\sqrt{-121}$

2) $-3\sqrt{-54}$

3) $(6i)(3i)$