

Simplify. No Decimals.

$$1.) \quad \sqrt{-48} = i\sqrt{48}$$

$$= i\sqrt{16 \cdot 3}$$

$$= \boxed{4i\sqrt{3}}$$

$$2.) \quad \sqrt{-25} = i\sqrt{25}$$

$$= \boxed{5i}$$

$$3.) \quad \sqrt{-200} = i\sqrt{200}$$

$$= i\sqrt{100 \cdot 2}$$

$$= \boxed{10i\sqrt{2}}$$

$$4.) \quad \sqrt{-6} \cdot \sqrt{-8}$$

$$= i\sqrt{6} \cdot i\sqrt{8}$$

$$= i^2\sqrt{48}$$

$$= -\sqrt{16 \cdot 3}$$

$$= \boxed{-4\sqrt{3}}$$

$$5.) \quad \sqrt{-20} = i\sqrt{20}$$

$$= i\sqrt{4 \cdot 5}$$

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

$$6.) \quad \sqrt{-72} = i\sqrt{72}$$

$$= i\sqrt{36 \cdot 2}$$

$$= \boxed{6i\sqrt{2}}$$

$$7.) \quad \sqrt{-52} = i\sqrt{52}$$

$$= i\sqrt{4 \cdot 13}$$

$$= \boxed{2i\sqrt{13}}$$

$$8.) \quad \sqrt{-3} \cdot \sqrt{-15}$$

$$= i\sqrt{3} \cdot i\sqrt{15}$$

$$= i^2\sqrt{45}$$

$$= -\sqrt{9 \cdot 5}$$

$$= \boxed{-3\sqrt{5}}$$

Simplify.

$$9.) \quad (7i) + (-3 + 5i) - (-3 + 8i)$$

$$= \underline{7i} - \underline{3} + \underline{5i} + \underline{3} - \underline{8i}$$

$$= \boxed{4i}$$

$$10.) \quad (-2 + 7i) - 8 - (3 - 6i)$$

$$= \underline{-2} + \underline{7i} - \underline{8} - \underline{3} + \underline{6i}$$

$$= \boxed{-13 + 13i}$$

$$11.) \quad (8 + 8i)(-1 - 8i)$$

$$= -8 - 64i - 8i - 64i^2$$

$$= -8 - 72i - 64(-1)$$

$$= -8 - 72i + 64$$

$$= \boxed{56 - 72i}$$

$$12.) \quad (2 - 6i)(-4 + 8i)$$

$$= -8 + 16i + 24i - 48i^2$$

$$= -8 + 40i - 48(-1)$$

$$= -8 + 40i + 48$$

$$= \boxed{40 + 40i}$$

$$13.) \quad (2 + 8i)(-1 - 7i)(-3 - i)$$

$$= -2 - 14i - 8i - 56i^2 \quad (-3 - i)$$

$$= -2 - 22i - 56(-1) \quad (-3 - i)$$

$$= -2 - 22i + 56 \quad (-3 - i)$$

$$= (54 - 22i)(-3 - i)$$

$$= -162 - 54i + 66i + 22i^2$$

$$14.) \quad (-6 - i)(2 + 7i)(-8 + i)$$

$$= -12 - 42i - 2i - 7i^2 \quad (-8 + i)$$

$$= -12 - 44i - 7(-1) \quad (-8 + i)$$

$$= -12 - 44i + 7 \quad (-8 + i)$$

$$= (-5 - 44i)(-8 + i)$$

$$= 40 - 5i + 352i - 44i^2$$

$$= 40 + 347i - 44(-1)$$

$$15.) \quad (2i)(-5i)$$

$$= -10i^2$$

$$= -10(-1)$$

$$= \boxed{10}$$

$$16.) \quad (-3i)(-7i)(5i)$$

$$= 21i^2(5i)$$

$$= 21(-1)(5i)$$

$$= -21(5i)$$

$$= \boxed{-105i}$$