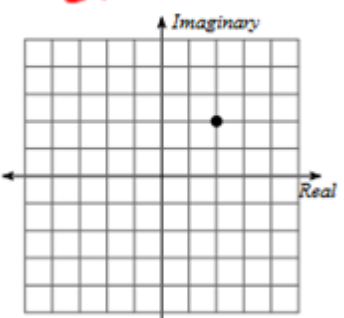
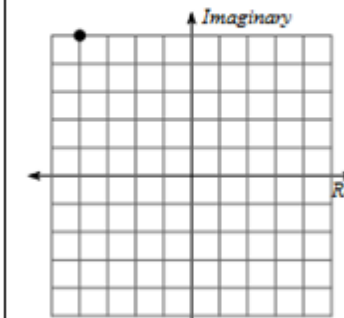
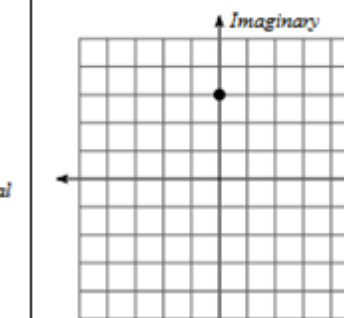
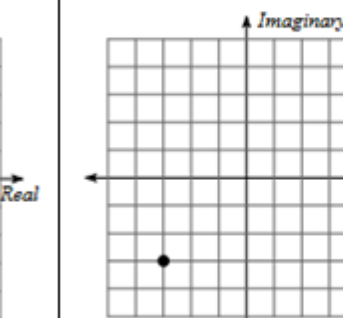


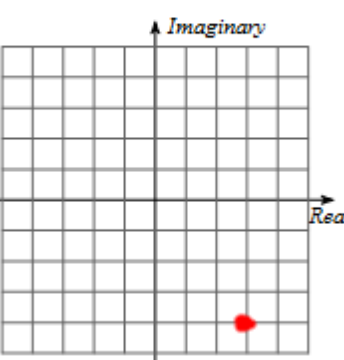
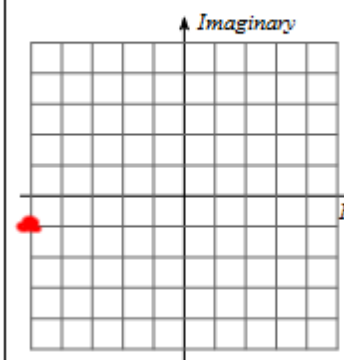
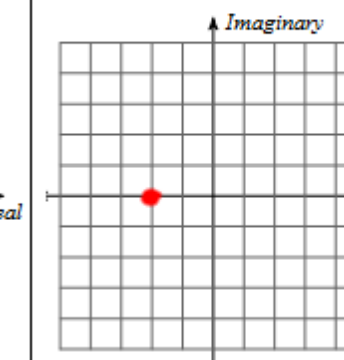
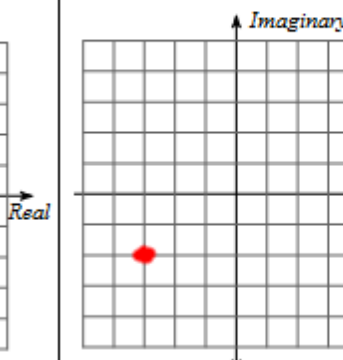
Simplify.

1. $i^9$ $4 \overline{) 20} R1$ $i^1 = \boxed{i}$	2. $i^{25}$ $4 \overline{) 25} R1$ $i^1 = \boxed{i}$	3. $i^{19}$ $4 \overline{) 19} R3$ $i^3 = \boxed{-i}$	4. $i^{42}$ $4 \overline{) 42} R2$ $i^2 = \boxed{-1}$	5. $i^{80}$ $4 \overline{) 80} R0$ $i^4 = \boxed{1}$
6. $\sqrt{45}$ $\sqrt{9} \cdot \sqrt{5}$ $3\sqrt{5}$	7. $\sqrt{-20}$ $i\sqrt{20}$ $i\sqrt{4} \cdot \sqrt{5}$ $2i\sqrt{5}$	8. $\sqrt{-75}$ $i\sqrt{75}$ $i\sqrt{25} \sqrt{3}$ $5i\sqrt{3}$	9. $-\sqrt{27}$ $-\sqrt{9} \cdot \sqrt{3}$ $-3\sqrt{3}$	10. $\sqrt{-64}$ $i\sqrt{64}$ $8i$

Identify each complex number graphed.

11. $2 + 2i$ 	12. $-4 + 5i$ 	13. $3i$ 	14. $-3 - 3i$ 
----------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------

Graph each number in the complex plane.

15. $3 - 4i$ 	16. $-5 - i$ 	17. $-2$ 	18. $-3 - 2i$ 
----------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------

Solve. Express your radical solutions in the simplest form.

19.  $x^2 + 2 = -26$

$$\sqrt{x^2} = \sqrt{-28}$$

$$x = \pm i\sqrt{28}$$

$$x = \pm i\sqrt{4 \cdot 7}$$

$$x = \pm 2i\sqrt{7}$$

20.  $9 - 4y^2 = 57$

$$-4y^2 = 48$$

$$\sqrt{y^2} = \sqrt{-12}$$

$$y = \pm i\sqrt{12}$$

$$y = \pm i\sqrt{4 \cdot 3}$$

$$y = \pm 2i\sqrt{3}$$

21.  $2m^2 = -200$

$$\sqrt{m^2} = \sqrt{-100}$$

$$m = \pm 10i$$

Solve. Express your radical solutions in the simplest form.

22.  $(x-3)^2 + 28 = 4$

$$\sqrt{(x-3)^2} = \sqrt{-24}$$

$$x-3 = \pm i\sqrt{24}$$

$$x = 3 \pm i\sqrt{24}$$

$$x = 3 \pm i\sqrt{4 \cdot 6}$$

$$x = 3 \pm 2i\sqrt{6}$$

23.  $-60 = 2(h+7)^2 + 4$

$$\frac{-64}{2} = \frac{2(h+7)^2}{2}$$

$$\sqrt{-32} = \sqrt{(h+7)^2}$$

$$\pm i\sqrt{32} = h+7$$

$$-7 \pm i\sqrt{32} = h$$

$$-7 \pm i\sqrt{16 \cdot 2} = h$$

$$-7 \pm 4i\sqrt{2} = h$$

24.  $3(t-6)^2 = -75$

$$\sqrt{(t-6)^2} = \sqrt{-25}$$

$$t-6 = \pm i\sqrt{25}$$

$$t = 6 \pm i\sqrt{25}$$

$$t = 6 \pm 5i$$

25.  $p^2 + 70 = -2p^2 + 4$

$$3p^2 + 70 = 4$$

$$\frac{3p^2}{3} = \frac{-66}{3}$$

$$\sqrt{p^2} = \sqrt{-22}$$

$$p = \pm i\sqrt{22}$$

26.  $(v-3)^2 + 5 = 0$

$$\sqrt{(v-3)^2} = \sqrt{-5}$$

$$v-3 = \pm i\sqrt{5}$$

$$v = 3 \pm i\sqrt{5}$$

27.  $w^2 + 58 = 4$

$$\sqrt{w^2} = \sqrt{-54}$$

$$w = \pm i\sqrt{54}$$

$$w = \pm i\sqrt{9 \cdot 6}$$

$$w = \pm 3i\sqrt{6}$$