Honors Core II

Chapter 2 Review Complex Numbers

Name_____

Date_____Period_____

Find the sum or difference.

1. $(3y^2 - 2y + 4) + (y^2 + 3y - 8)$

2. $(3m - 3m^3) - (14 - 8m^3 + 5m^2 - m)$

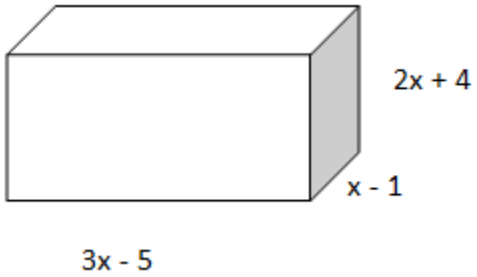
Find the product.

3. $(2n - 3)(4n^2 + 2n - 5)$

4. $(4x + 1)^2$

5. $(2x - 3)^3$

6. Find the volume:



Simplify:

7. $2x(3x^2 + 5) - (x - 7)(2x + 1)$

8. Find two polynomials that have a sum of degree 3 and a product of degree 7 if possible.

Solve the equation for x.

9. $x^2 - 4 = 20$

10. $2x^2 - 10 = -30$

11. $-3x^2 = 15$

Simplify:

12. $\sqrt{-72}$

13. $\sqrt{-125}$

14. $4 - \sqrt{-36}$

Simplify:

15. $(24 - 15i) + (16 + 7i)$

16. $(5 + 2i) - (-5 + 4i)$

17. $-5i(4 + 2i)$

18. $(3 - 2i)(4 + 2i)$

19. $2i(-2 + i)(-2 - i)$

20. $\frac{2}{5i}$

21. $\frac{2i}{3+2i}$

22. $\frac{i-2}{-2-3i}$

Given: $z = 2 - i$ $w = 3 + 2i$

Find:

23. $-z$

24. $\overline{z}$

25. $|w|$

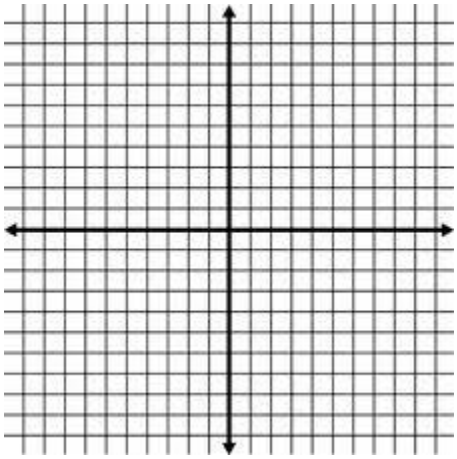
26. $\overline{z - w}$

27. $2z + \overline{w}$

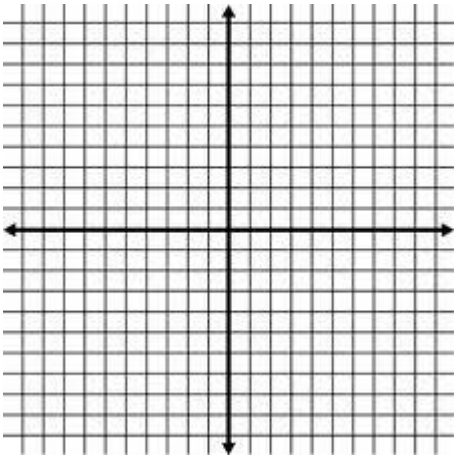
28. $|3z - 2w|$

Graph the complex number.

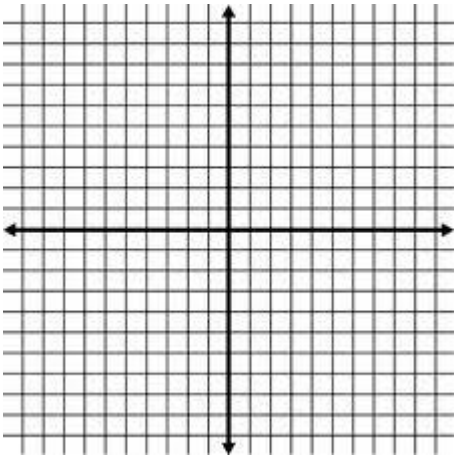
29. $2 - 6i$



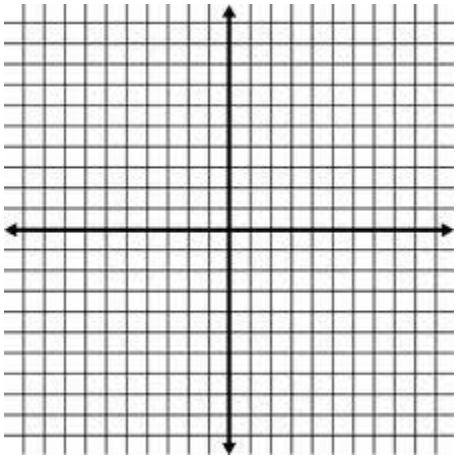
30. $-3i$



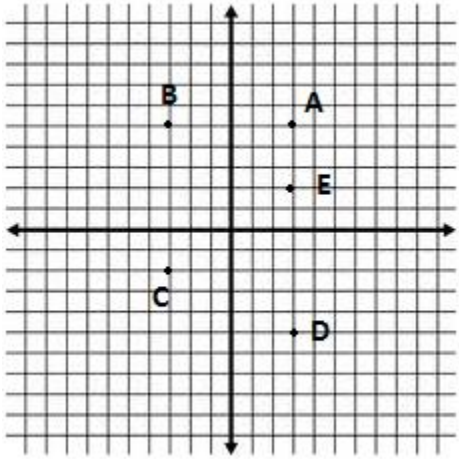
31. 6



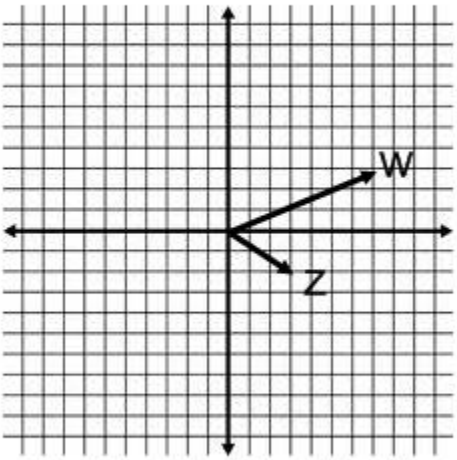
32. Graph $(2+4i)i^3$



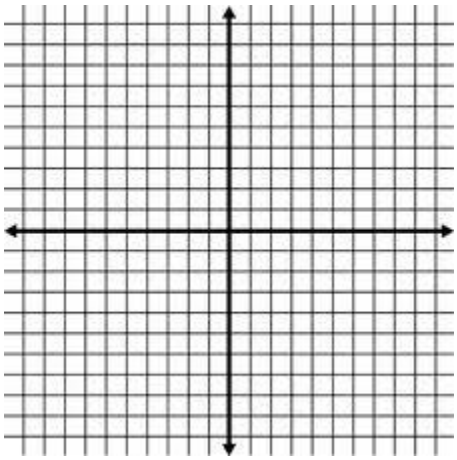
33. Which 2 points are conjugates?



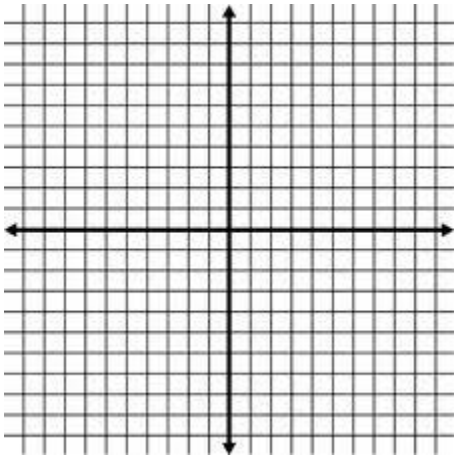
Use the following graph for questions 34-36.



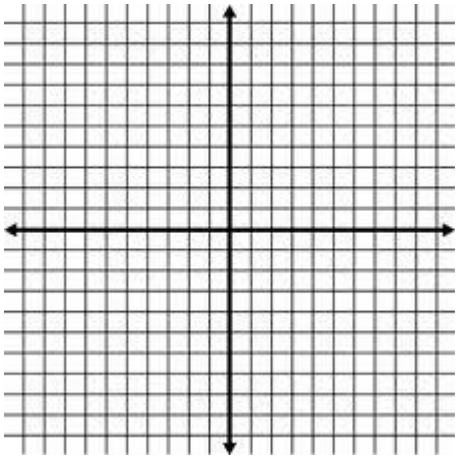
34. Graph $z-w$



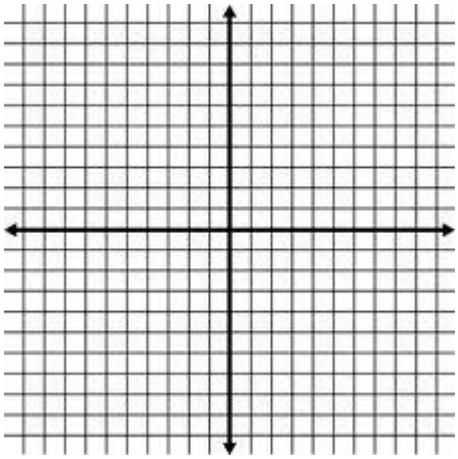
35. Graph $3z$



36. Graph $-w+3z$



37. Graph wi



38. Order the following complex numbers from least to greatest, based on how far each number is from the origin.

$5+6i$ $\qquad$ $3-7i$ $\qquad$ 8 $\qquad$ $-6-4i$