Find the sum or difference: 1. $(x^4 + 5x^2 - 2x) + (8x^4 + 3x + x^3)$ $-7x^4 + x^3 + 5x^2 - 5x$ 2. $(3 + m^3) + (1 - 5m^3 - 3m^4)$ $-3m^4 - 4m^3 + 4$	Find the sum or difference: 1. $(x^4 + 5x^2 - 2x) - (8x^4 + 3x - x^3)$ 2. $(3 + m^3) + (1 - 5m^3 - 3m^4)$
Find the product: 3. $(2n - 1)(5n^2 - 6n - 7)$ $10n^3 - 12n^2 - 14n$ $-5n^2 + 6n + 7$ $10n^3 - 17n^2 - 8n + 7$	Find the product: 3. $(2n - 1)(5n^2 - 6n - 7)$
Find the product: 4. $(2x + y)^2$ $(2x+y)(2x+y)$ $4x^2 + 2xy + 2xy + y^2$ $4x^2 + 4xy + y^2$	Find the product: 4. $(2x + y)^2$
Find the product: 5. $(x - 5)^3$ $(x-5)(x-5)(x-5)$ $(x-5)(x^2 - 5x - 5x + 25)$ $(x-5)(x^2 - 10x + 25)$ $x^3 - 10x^2 + 25x$ $-5x^2 + 50x - 125$ $x^3 - 15x^2 + 75x - 125$	Find the product: 5. $(x - 5)^3$

Solve for x. 6. $2x^2 - 6 = 30$ $+6 \quad +6$ $2x^2 = 36$ $x^2 = 18$ $x = \pm\sqrt{18}$ $x = \pm 3\sqrt{2}$ 7. $x^2 + 5 = -15$ $-5 \quad -5$ $x^2 = -20$ $x = \pm\sqrt{-20}$ $x = \pm 2i\sqrt{5}$	Solve for x. 6. $2x^2 - 6 = 30$ 7. $x^2 + 5 = -15$
Simplify: 8. $-\sqrt{48}$ $\quad -4\sqrt{3}$ $16 \cdot 3$ 9. $\sqrt{-18}$ $\quad 3i\sqrt{2}$ $9 \cdot 2$ 10. $-3 + \sqrt{-36}$ $\quad -3 + 6i$	Simplify: 8. $-\sqrt{48}$ 9. $\sqrt{-18}$ 10. $-3 + \sqrt{-36}$
Simplify: 11. $(24 - 6i) + (+12 + 2i)$ $36 - 4i$ 12. $(8 - 6i) + (-3 - 3i)$ $5 - 9i$	Simplify: 11. $(24 - 6i) - (-12 - 2i)$ 12. $(8 - 6i) + (-3 - 3i)$
Find the product: 13. $-2i(2 + i)(-4 - 3i)$ $-2i(-8 - 6i - 4i - 3i^2)$ $-2i(-8 - 10i + 3)$ $-2i(-5 - 10i)$ $10i + 20i^2$ $\quad -20 + 10i$	Find the product: 13. $-2i(2 + i)(-4 - 3i)$

Simplify:

14. $\frac{-2}{9i}\frac{(i)}{(i)} = \frac{-2i}{9i^2} = \frac{-2i}{-9} = \frac{2}{9}i$

Simplify:

14. $\frac{-2}{9i}\frac{(i)}{(i)}$

Simplify:

15. $\frac{-4i}{(5+2i)}\frac{(5-2i)}{(5-2i)} = \frac{-20i+8i^2}{25-10i+10i-4i^2}$

$\frac{-8-20i}{29}$

Simplify:

15. $\frac{-4i}{5+2i}$

Given the complex numbers:
$z = -3 + 4i \qquad w = 2 + 3i$

Find:
16. $\bar{z}$ $-3-4i$

17. $|z|$ $\sqrt{4^2+(-3)^2} = 5$

18. $2z - 3w$ $2(-3+4i) - 3(2+3i)$
$-6+8i-6-9i = -12-i$

Given the complex numbers:
$z = -3 + 4i \qquad w = 2 + 3i$

Find:
16. $\bar{z}$

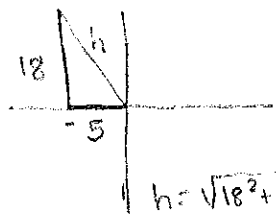
17. $|z|$

18. $2z - 3w$

Given the complex numbers:
$z = -3 + 4i \qquad w = -2 - 3i$

Find:

19. $|3z - 2w|$



$3(-3+4i) - 2(-2-3i)$
$-9+12i+4+6i$
$-5+18i$

$h = \sqrt{18^2+5^2}$

$h = \sqrt{349}$

Given the complex numbers:
$z = -3 + 4i \qquad w = -2 - 3i$

Find:

19. $|3z - 2w|$

Graph the complex numbers:

20. -2

21. $-8+4i$

22. $6i$

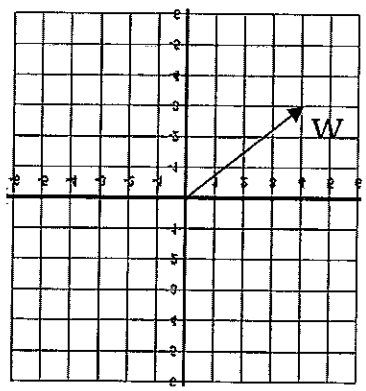
Using vectors prove:

23. $(2-4i)+(5+2i)=(7-2i)$

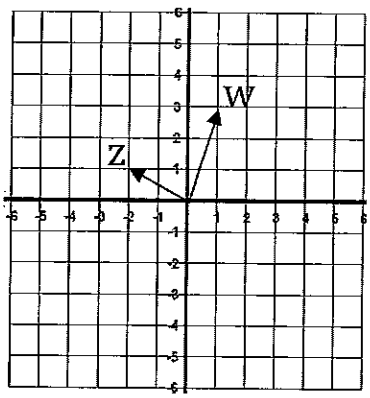
24. Use the following graph to graph wi

4+3i

4i-3



25. Use the following graph to graph $-z+3w$



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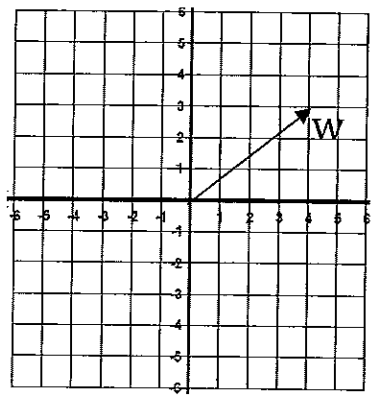
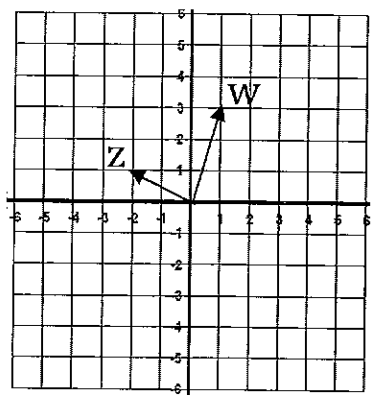
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