

Extra Practice #6

Simplify

1. i^{453}

2. $(4 - 8i) - (1 + 5i)$

3. $(4 - 8i)(1 + 5i)$

4. $\frac{9 - i}{3i}$

5. $\frac{2}{5 - 3i}$

6. $\frac{4 + 8i}{1 + 5i}$

7. State the discriminant and describe the solutions

a) $(2x - 1)(x + 3) = 0$

b) $3x^2 = 4(x - 2)$

8. Factor:

a) $6x^2 - 5xy - y^2$

b) $2cy - 6cw - xy + 3wx$

c) $4x^4 + 12x^3 - 16x^2$

d) $64x^3 + 27y^3$

e) $8 - 64x^3$

9. Solve and graph the quadratic inequality:

a) $x^2 > 3x + 4$

b) $0 \leq 2x - x^2 + 3$

10. Graph $4 + 2i$ 11. Find $|4 + 2i|$ **Extra Practice #6**

Simplify

1. i^{453}

2. $(4 - 8i) - (1 + 5i)$

3. $(4 - 8i)(1 + 5i)$

4. $\frac{9 - i}{3i}$

5. $\frac{2}{5 - 3i}$

6. $\frac{4 + 8i}{1 + 5i}$

7. State the discriminant and describe the solutions

a) $(2x - 1)(x + 3) = 0$

b) $3x^2 = 4(x - 2)$

8. Factor:

a) $6x^2 - 5xy - y^2$

b) $2cy - 6cw - xy + 3wx$

c) $4x^4 + 12x^3 - 16x^2$

d) $64x^3 + 27y^3$

e) $8 - 64x^3$

9. Solve and graph the quadratic inequality:

a) $x^2 > 3x + 4$

b) $0 \leq 2x - x^2 + 3$

10. Graph $4 + 2i$ 11. Find $|4 + 2i|$

Extra Practice #6 answers:

1. i

2. $3-13i$

3. $44+12i$

4. $-\frac{1}{3}-3i$

5. $\frac{5}{17}+\frac{3}{17}i$

6. $\frac{22}{13}-\frac{6}{13}i$

7.

a) 49; 2 real rational

b) -80; 2 imaginary

8.

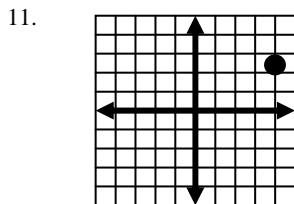
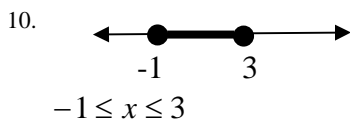
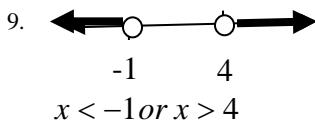
a) $(6x+y)(x-y)$

b) $(2c-x)(y-3w)$

c) $4x^2(x-1)(x+4)$

d) $(4x+3y)(16x^2-12xy+9y^2)$

e) $8(1-2x)(1+2x+4x^2)$



12. $2\sqrt{5}$

Extra Practice #6 answers:

1. i

2. $3-13i$

3. $44+12i$

4. $-\frac{1}{3}-3i$

5. $\frac{5}{17}+\frac{3}{17}i$

6. $\frac{22}{13}-\frac{6}{13}i$

7.

a) 49; 2 real rational

b) -80; 2 imaginary

8.

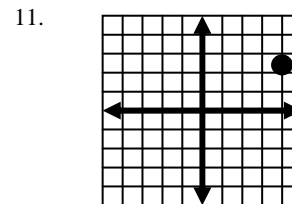
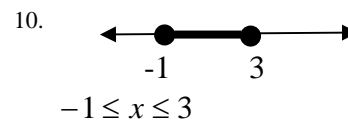
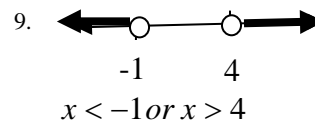
a) $(6x+y)(x-y)$

b) $(2c-x)(y-3w)$

c) $4x^2(x-1)(x+4)$

d) $(4x+3y)(16x^2-12xy+9y^2)$

e) $8(1-2x)(1+2x+4x^2)$



12. $2\sqrt{5}$