Math 2 Name_____

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# Unit 5 Review (Quadratic Pre-Unit)

Date_____ Period____

**Find all zeroes.**

1) $(5x-1)(x-1)=0$

A) $\left\{\frac{1}{3}, -3\right\}$ B) $\left\{\frac{1}{5}, -2\right\}$

C) $\left\{-\frac{1}{5}, 1\right\}$ D) $\left\{\frac{1}{5}, 1\right\}$

2) $(5x-1)(x-2)=0$

A) $\left\{\frac{1}{5}, 2\right\}$ B) $\left\{\frac{1}{6}, 2\right\}$

C) $\left\{-\frac{1}{5}, 1\right\}$ D) $\left\{\frac{1}{5}, -3\right\}$

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

A) $\{0 \text{ mult. } 2, -1\}$

B) $\left\{-1, 1, \frac{1}{2}\right\}$

C) $\left\{-1, 1, -\frac{1}{2}\right\}$

D) $\left\{-\frac{1}{3}, 1, -\frac{1}{2}\right\}$

4) $(x+3)(x-1)(3x-1)=0$

A) $\left\{-3, 1, -\frac{1}{3}\right\}$ B) $\left\{-\frac{3}{2}, 1, \frac{1}{3}\right\}$

C) $\left\{-3, 1, \frac{1}{3}\right\}$ D) $\left\{-3, -1, \frac{1}{3}\right\}$

5) $(x+1)(2x-1)=0$

A) $\left\{-1, \frac{1}{2}\right\}$ B) $\left\{-3, \frac{1}{2}\right\}$

C) $\left\{-1, -\frac{3}{2}\right\}$ D) $\left\{-1, \frac{1}{4}\right\}$

6) $(3x-1)(x+1)=0$

A) $\left\{\frac{1}{3}, -1\right\}$ B) $\left\{\frac{1}{3}, -\frac{1}{3}\right\}$

C) $\{0, -1\}$ D) $\left\{0, \frac{1}{3}\right\}$

7) $x(2x+1)(x+1)=0$

A) $\left\{0, -\frac{1}{2}, -\frac{1}{3}\right\}$

B) $\left\{0, -\frac{1}{2}, -2\right\}$

C) $\left\{0, -\frac{1}{4}, -\frac{1}{3}\right\}$

D) $\left\{0, -\frac{1}{2}, -1\right\}$

8) $x(x-1)(2x+1)=0$

A) $\left\{0, 1, -\frac{3}{2}\right\}$ B) $\left\{0, 1, -\frac{1}{2}\right\}$

C) $\left\{0, \frac{1}{3}, -\frac{1}{2}\right\}$ D) $\left\{0, 1, -\frac{1}{4}\right\}$

**State the number of solutions for each function.**

9) $f(x)=x^3+27$

A) 2 or 0 B) 4, 2, or 0

C) 3 D) 2

10) $f(x)=3x^4+4x^2-7$

A) 6 B) 4

C) 2 D) 3

11) $f(x)=3x^3-7x^2-7x+3$

A) 5 B) 3

C) 4 D) 2

12) $f(x)=4x^5-2x^4-18x^3+9x^2+18x-9$

A) 3 B) 5 C) 4 D) 6



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13) $f(x) = 3x^3 - 5x^2 - 11x - 3$

A) 5 B) 3
C) 2 D) 4

14) $f(x) = 6x^5 - 2x^4 + 3x^3 - x^2 - 3x + 1$

A) 5 B) 6
C) 7 D) 4

**Simplify.**

15) $(-5 - 2i) + (3 - 2i)$

A) $-2 - 4i$ B) $3 - 2i$
C) $7 - 8i$ D) $5 - 8i$

16) $(-2i) + (-7 + 8i) + (6i)$

A) $-7 + 12i$ B) $-14 + 20i$
C) $7 - 4i$ D) $-10 + 14i$

17) $(-1 - 5i) + (6i) - 5$

A) $4 - i$ B) $4 + i$
C) $-4 + 11i$ D) $-6 + i$

18) $(3 + 8i) + (6 - 7i)$

A) $9 - 15i$ B) $-3 + i$
C) $9 + 15i$ D) $9 + i$

19) $(-1 - 6i)(-8 + i)$

A) $14 + 47i$ B) $6 + 36i$
C) $15 + 53i$ D) $5 + 30i$

20) $4(-5i)(6 - 3i)$

A) $-100i$ B) $-45 - 60i$
C) $-60 - 120i$ D) $-60i$

21) $(7 + 6i)^2$

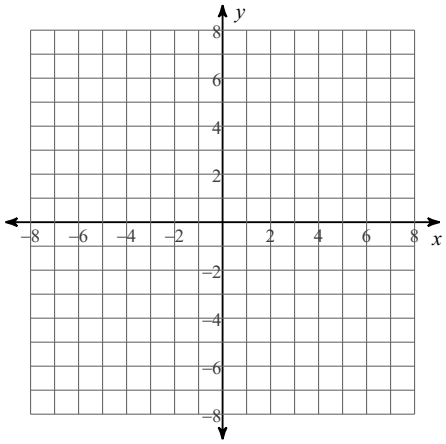
A) $72i$ B) 225
C) $13 - 84i$ D) $13 + 84i$

22) $(-7 - 5i)(3 - i)$

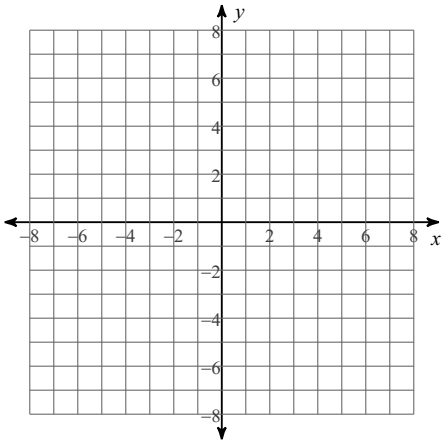
A) $-16 + 22i$ B) $-26 - 8i$
C) $-26 + 8i$ D) $26 + 8i$

**Determine the number of real solutions, the number of complex solutions, and the total number of solutions for each function.**

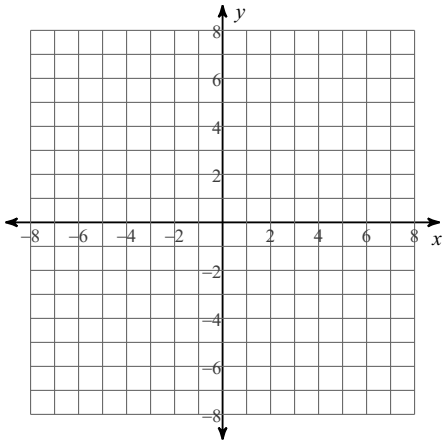
23) $f(x) = 2x^2 + 16x + 26$



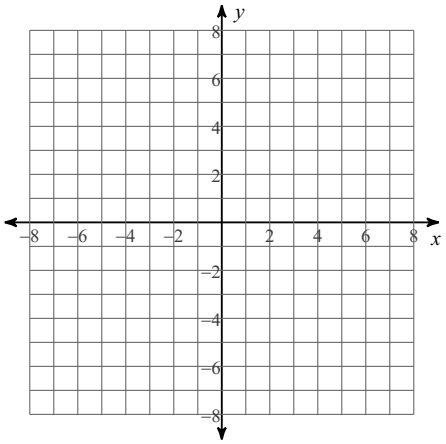

24) $f(x) = -x^5 + 4x^3 - 4x - 4$




25) $f(x) = x^4 - 3x^2 - 3x - 2$




26) $f(x) = x^2 - 4x + 1$

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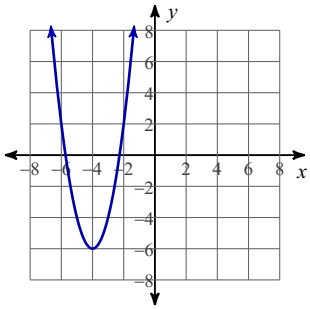
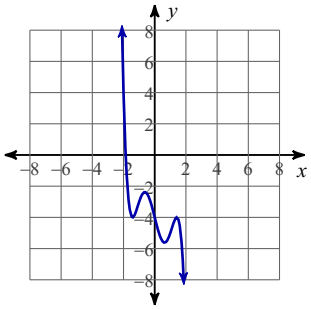
# Answers to Unit 5 Review (Quadratic Pre-Unit)

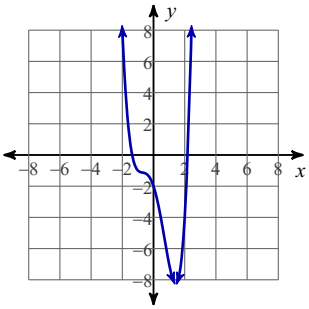
1) D
2) A
3) B
4) C
5) A
6) A
7) D
8) B
9) C
10) B
11) B
12) B
13) B
14) A
15) A
16) A
17) D
18) D
19) A
20) C
21) D
22) B
23)



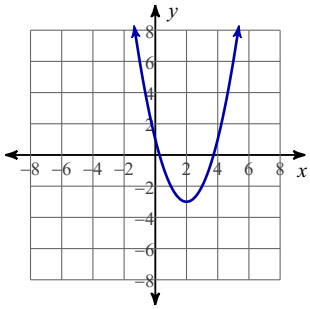

24)




25)




26)

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