

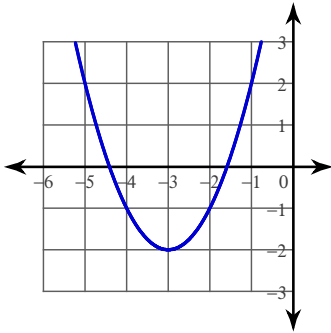
UNIT 1 TEST - Mark all answers clearly!!!

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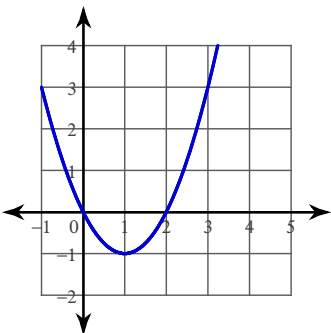
Sketch the graph of each function.

1) $y = (x - 3)^2 - 3$

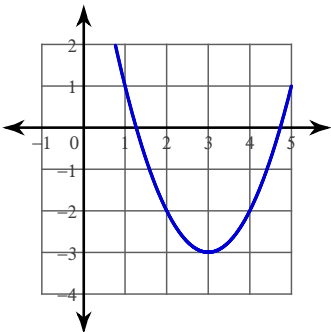
A)



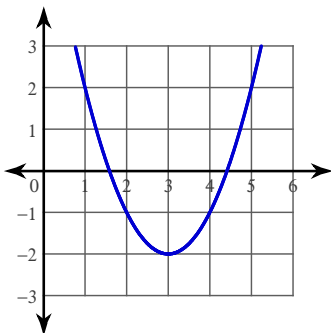
B)



C)

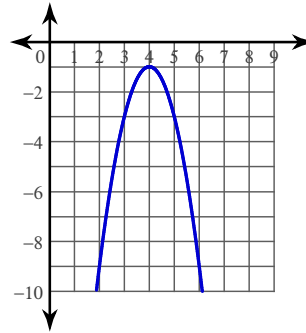


D)

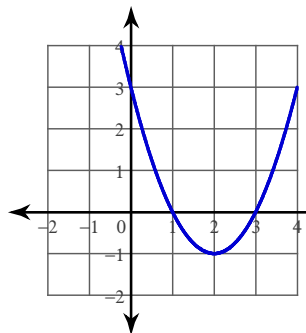


2) $y = -(x - 3)^2 + 1$

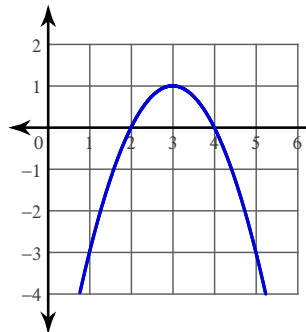
A)



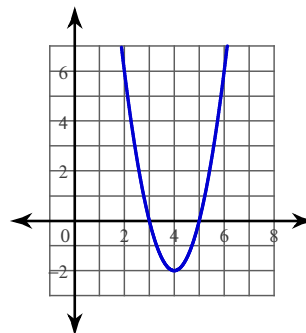
B)



C)



D)



Find the absolute value of each complex number.

3) $|5 - 5i|$

- A) $\sqrt{61}$ B) $\sqrt{74}$
C) $\sqrt{65}$ D) $5\sqrt{2}$

4) $|1 + i|$

- A) $\sqrt{3}$ B) $2\sqrt{2}$
C) $\sqrt{2}$ D) $\sqrt{13}$

Simplify.

5) $(8 + 4i) + (6i)$

- A) $8 - 2i$ B) $-8 + 10i$
C) $8 + 10i$ D) $24 + 8i$

6) $(7 - 3i)(5 - 2i)$

- A) $29 - 29i$ B) $-41 - i$
C) $19 - 25i$ D) $41 - i$

7) $\frac{7}{-6i}$

- A) $\frac{4i}{3}$ B) $-7i$
C) $\frac{5i}{3}$ D) $\frac{7i}{6}$

8) $\frac{2 + 2i}{-8 - 4i}$

- A) $\frac{-6 + 4i}{13}$ B) $\frac{-6 + 3i}{10}$
C) $\frac{-18 - 2i}{41}$ D) $\frac{-3 - i}{10}$

Solve:

9) $n^2 - 8 = 42$

- A) $\{3, -3\}$ B) $\{5\sqrt{2}, -5\sqrt{2}\}$
C) $\{2\sqrt{5}\}$ D) $\{2\sqrt{5}, -2\sqrt{5}\}$

10) $5x^2 + 1 = 6x$

- A) $\left\{\frac{3}{2}, -1\right\}$ B) $\left\{\frac{1}{5}, 1\right\}$
C) $\left\{\frac{1}{5}, -8\right\}$ D) $\left\{-\frac{3}{2}, 6\right\}$

11) $a^2 + 3a - 40 = 0$

- A) $\{3, -8\}$ B) $\{-5, -2\}$
C) $\{5, -8\}$ D) $\{-8\}$

Find the first five terms.

12) $a_n = -39 + 6n$

- A) $-33, -29, -25, -21, -17$
B) $-35, -30, -25, -20, -15$
C) $-35, -31, -27, -23, -19$
D) $-33, -27, -21, -15, -9$

13) $a_1 = -21, d = -100$

- A) $-120, -220, -320, -420, -520$
B) $-21, -120, -219, -318, -417$
C) $-121, -221, -321, -421, -521$
D) $-21, -121, -221, -321, -421$

Find the explicit formula.

14) $a_1 = 31, d = 5$

- A) $a_n = 36 - 5n$
B) $a_n = 26 + 5n$
C) $a_n = 25 + 6n$
D) $a_n = 37 - 6n$

15) $6, 11, 16, 21, \dots$

- A) $a_n = -1 + 5n$
B) $a_n = -2 + 6n$
C) $a_n = -3 + 6n$
D) $a_n = 1 + 5n$

Find the term named in the problem.

16) $a_1 = -38, d = 9$

Find a_{24}

- A) $a_{24} = 152$ B) $a_{24} = 144$
C) $a_{24} = 169$ D) $a_{24} = 167$

17) $a_1 = 1, d = -30$

Find a_{32}

- A) $a_{32} = -929$ B) $a_{32} = -990$
C) $a_{32} = -960$ D) $a_{32} = -930$

Solve:

18) $8 + 9r = 9r + 10r^2$

A) $\left\{ \frac{-5 + \sqrt{82}}{3}, \frac{-5 - \sqrt{82}}{3} \right\}$

B) $\{2i\sqrt{2}, -2i\sqrt{2}\}$

C) $\left\{ -\frac{2i\sqrt{5}}{5}, \frac{2i\sqrt{5}}{5} \right\}$

D) $\left\{ -\frac{2\sqrt{5}}{5}, \frac{2\sqrt{5}}{5} \right\}$

19) $6m^2 - 4m = -1$

A) $\left\{ \frac{2 + i\sqrt{2}}{6}, \frac{2 - i\sqrt{2}}{6} \right\}$

B) $\left\{ \frac{5 + i\sqrt{15}}{10}, \frac{5 - i\sqrt{15}}{10} \right\}$

C) $\{4, -4\}$

D) $\{4\sqrt{2}, -4\sqrt{2}\}$

20) $2x^2 + 3x - 9 = 0$

A) $\{4, -1\}$ B) $\{1.5, -3\}$

C) $\{1.5, -4\}$ D) $\{1, -3\}$

Evaluate each arithmetic series described.

21) 24, 32, 40, 48, 56, 64, 72

A) 672 B) 2684

C) 1350 D) 336

22) $a_1 = 5, a_n = 20, n = 6$

A) 75 B) 158

C) 308 D) 150

23) $\sum_{m=3}^{11} (7m - 4)$

A) 405 B) 413

C) 810 D) 407

24) $8 + 13 + 18 + 23\dots, n = 8$

A) 408 B) 402

C) 204 D) 201

25) $10 + 15 + 20 + 25\dots, n = 19$

A) 1043 B) 2086

C) 2082 D) 1045

Answers to UNIT 1 TEST - Mark all answers clearly!!! (ID: 4)

1) C
5) C
9) B
13) D
17) A
21) D
25) D

2) C
6) A
10) B
14) B
18) D
22) A

3) D
7) D
11) C
15) D
19) A
23) A

4) C
8) D
12) D
16) C
20) B
24) C