

- 1** Which of the following is equivalent to the expression below?

$$(3x + 2)(x + 1)$$

- A. $3x^2 + 2$
- B. $4x^2 + 3$
- C. $3x^2 + 5x + 2$
- D. $4x^2 + 5x + 2$

Mark your answer here: 1. A B C D

- 2** The Hypertech Company uses the formula

$$C = -2n^2 + 2n + 1500$$

to calculate C , the cost per computer of producing n computers. What is the **greatest** number of computers the company can produce for a cost per computer of \$1080?

- A. 10
- B. 14
- C. 15
- D. 21

Mark your answer here: 2. A B C D



- 3** Which of the following is equivalent to the expression below?

$$x^2 + 3x - 5x^2 + 6$$

- A. $-4x^2 + 3x + 6$
- B. $4x^2 + 3x + 6$
- C. $x^2 - 2x + 6$
- D. $x^2 + 2x + 6$

Mark your answer here: 3. (A)(B)(C)(D)

- 4** If $x > 0$, which of the following is closest to the value of x that makes the equation below true?

$$2x^2 = 40$$

- A. 3.2
- B. 4.5
- C. 6.3
- D. 8.9

Mark your answer here: 4. (A)(B)(C)(D)



5 Which of the following is closest to the value of $\sqrt{72}$?

- A. 8.1
- B. 8.5
- C. 8.9
- D. 9.3

Mark your answer here: 5. (A)(B)(C)(D)

6 What are the solutions to the equation below?

$$x^2 - 4x - 21 = 0$$

Write your answer here:



Directions: For the problem below, use a separate piece of paper to write your answers. Your teacher will not count anything you write on this page.

7

The distance, d , in feet, that a dropped rock falls in t seconds can be estimated using the formula below.

$$d = 16t^2$$

Use the formula to answer the following questions.

- a. What is the distance, in feet, that a dropped rock will fall in 10 seconds? Show your work.
- b. What is the ratio of the **distance** a dropped rock will fall in 30 seconds as compared to the **distance** a dropped rock will fall in 10 seconds? Show your work.
- c. How many seconds will it take a dropped rock to fall 144 feet? Show your work.
- d. To the nearest tenth of a second, how many seconds will it take a dropped rock to fall 80 feet? Show your work.

