

# Comprehensive GEPA Prep

## Part A

Name \_\_\_\_\_

Date \_\_\_\_\_ Period \_\_\_\_\_

*Show all work. Calculator permitted.*

1. Shauna and Stacy are looking at posters and talking about their poster collections. Shauna says, "If I buy this poster and two more, I will have a total of twelve." Stacy says, "If I buy this poster and four more, I will have a total of seventeen."

How many posters does each girl have?

2. Three-eighths of the students at Frelinghuysen Middle School Participate in school sports. What percent of the students do not participate?

- A 12.5%
- B 37.5%
- C 62.5%
- D 82.5%

3. For what value of  $n$  is the equation true?

$$2^n = 128$$

- A 5
- B 6
- C 7
- D 8

4. Laurie had her hair cut 2 inches. Let  $h$  equal the length of Laurie's hair just before she cut it, and let  $c$  equal the length of her hair now. Which equation can you use to find the length of Laurie's hair now?

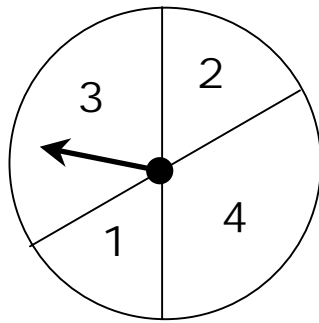
A  $c - h = 2$

B  $c = 2 + h$

C  $h = c - 2$

D  $c = h - 2$

5. Look at the spinner.



The areas of sections 1 and 2 are equal. The areas of sections 3 and 4 are twice the areas of sections 1 and 2. What is the probability that a spin will land on 3?

6. In the equation  $y = 2x + 3$ , how does the value of  $y$  change as the value of  $x$  changes by 2?
- A decreases by 2
  - B increases by 2
  - C decreases by 2
  - D increases by 4
7. Grant and four of his friends play in a checker tournament. If each of them plays one game with each of the others, how many games will be played in all?

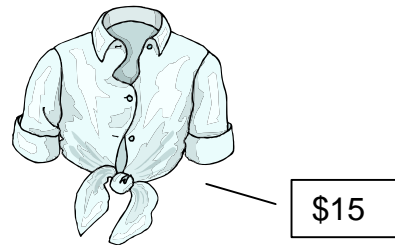
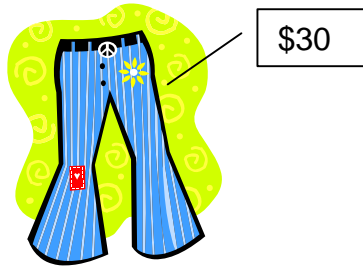
Show your work.

8. Which two of the following four ratios form a proportion?

3 to 4      4 to 6      8 to 12      10 to 12

Show your work.

9. Anna has \$75. She buys these clothes.



She plans to spend the rest of her money on school supplies. Of the money she started with, what percent will Anna spend on school supplies?

Show your work.

Answer: \_\_\_\_\_%

10. Lola's Golf Club sells about 12,500 golf balls a year. The club is open 7 days each week, 8 months of the year. If the club sells approximately the same number of balls each day, about how many golf balls does it sell each day?

Show your work.

Answer: \_\_\_\_\_ golf balls

11. While playing a game of checkers, Sam says to you, “Suppose I put a penny on the first square. Then I put 2 pennies on the second square, 4 pennies on the third square, 8 pennies on the fourth square and so on. Would you rather have the amount of money that goes on the twentieth square or a thousand dollars?”

**Part A**

Write an expression (a power of 2) that shows the number of pennies that would be on the fifth square.

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**Part B**

Write an expression (a power of 2) that shows the number of pennies that would be on the  $n$ th square. Use the letter  $n$  to represent the  $n$ th square in your expression.

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**Part C**

Suppose you would like the greater amount of money. Would you rather have a thousand dollars or the amount that goes on the twentieth square?

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On the lines below, explain your answer.

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**DIRECTIONS:** *Respond in detail. Show your process and provide an explanation as directed in the question. Your score will be based on the accuracy and completeness of your process and explanation.*

**USE P.A.C.E.**

12. Monica is saving to buy a bicycle. The bike costs \$500. She already has \$214. Every week she receives \$7 allowance and \$20 for delivering papers. If she saves all the money she receives, how many more weeks will it take Monica to earn enough money to buy the bike?