

Name: \_\_\_\_\_

Date \_\_\_\_\_

## BARD Math Diagnostic: Part 1

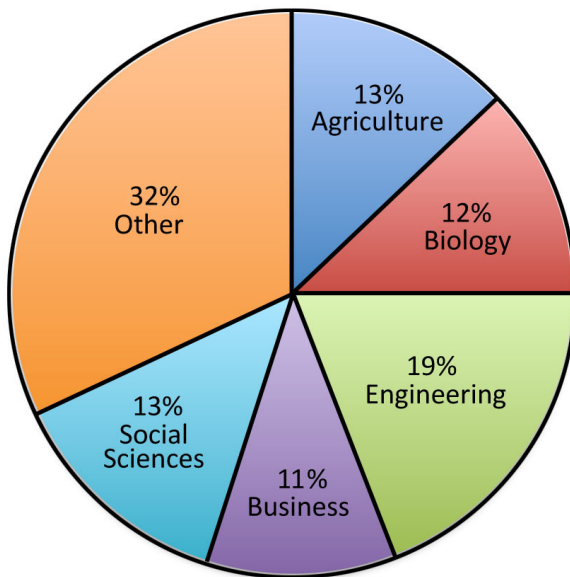
Use the **highlight function** of your PDF viewer (or some similar way of marking up the PDF) to select your answers.

1.1) A study had six participants whose ages were 22, 25, 25, 33, 34, and 35 years old. What was the average age of the group? \*

Mark only one oval.

- 31
- 27
- 33
- 29
- 25

1.2) The following pie-chart indicates the percentage of students in certain majors at a university. If the university has 12,500 students, approximately how many students are majoring in engineering? \*



Mark only one oval.

- 475
- 2375
- 10,125
- 23,750

1.3) A voter registration campaign increases the number of registered voters by 25%. If there were 6000 voters before the campaign, how many are there after the campaign? \*

Mark only one oval.

- 1500
- 7000
- 7500
- 15,000

1.4) Express the number 0.00172 in scientific notation. \*

Mark only one oval.

- $1.72 \times 10^{-4}$
- $1.72 \times 10^{-3}$
- $1.72 \times 10^3$
- $1.72 \times 10^2$

1.5) Which of the following is true? \*

Mark only one oval.

- $2 < 3 < 5$
- $5 > 2 > 3$
- $2 < 5 < 3$
- $2 > 3 > 5$

1.6) If  $x = 3$  and  $y = 3 + 5x^2$ , what is  $y$ ? \*

Mark only one oval.

- 33
- 45
- 48
- 57

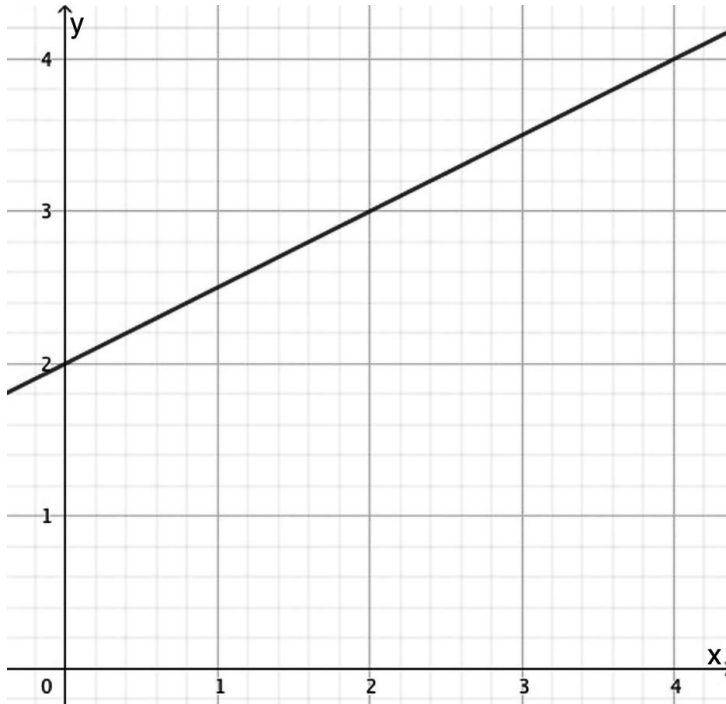
1.7) Evaluate this fraction. \*

$$\frac{\frac{1}{4} + \frac{1}{2}}{3}$$

Mark only one oval.

- 1/18
- 1/6
- 1/4
- 5/12

1.8) What is the equation of this line? \*



Mark only one oval.

- $y = 0.5x + 2$
- $y = 0.5x - 2$
- $y = 2x + 2$
- $y = 2x - 2$

1.9) What is the slope of this linear equation:  $y = 3x + 7$  ? \*

Mark only one oval.

- $y$
- $7$
- $3$
- $x$

1.10) The formula to convert temperatures in Fahrenheit to temperatures in Celsius is shown below. Using this formula find the value of C when  $F = 41$ . \*

$$C = \frac{5F - 160}{9}$$

Mark only one oval.

- $C = 4^\circ$
- $C = 5^\circ$
- $C = 22.8^\circ$
- $C = 187.2^\circ$

1.11) Solve for x. \*

$$\frac{x}{3} - 2 = 5$$

Mark only one oval.

- x = 7
- x = 7.5
- x = 9
- x = 21

1.12) Solve for x. \*

$$2x + 3 = x + 7$$

Mark only one oval.

- x = 2
- x = 4
- x = 6
- x = 8

1.13) Solve for x. \*

$$\sqrt{x + 1} = 3$$

Mark only one oval.

- x = 2
- x = 4
- x = 6
- x = 8

1.14) Which of the following is equal to this expression? \*

$$x^2 + 2x - 15$$

Mark only one oval.

- = (x + 3)(x - 5)
- = (x - 3)(x - 5)
- = (x + 3)(x + 5)
- = (x - 3)(x + 5)

1.15) Simplify  $(2xy^4)^3$ . \*

Mark only one oval.

- $2x^3y^7$
- $8x^3y^{12}$
- $2x^3y^{12}$
- $8x^3y^7$

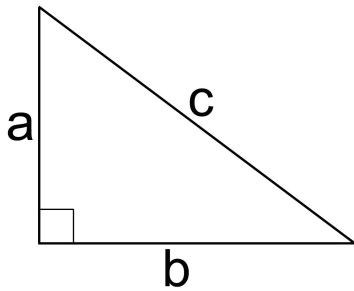
1.16) Solve for x. \*

$$7(x + 1) - 5(x + 2) = 9$$

Mark only one oval.

- $x = 2$
- $x = 4$
- $x = 6$
- $x = 8$

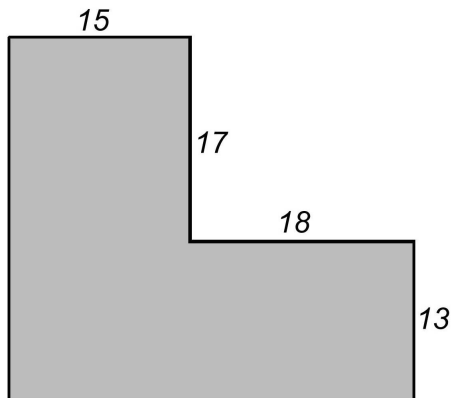
1.17) In the right triangle shown below,  $a = 9$  and  $c = 15$ . Use the Pythagorean Theorem to find b. \*



Mark only one oval.

- $b = 11$
- $b = 12$
- $b = 17.5$
- $b = 24$

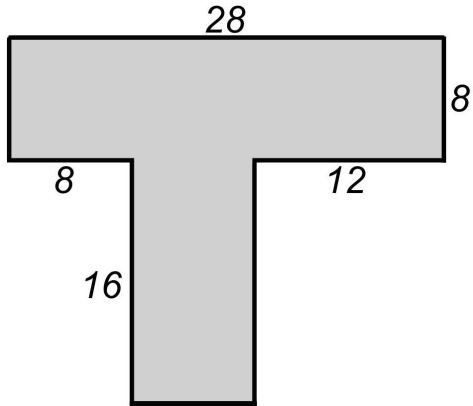
1.18) What is the perimeter of this figure? \*



Mark only one oval.

- 63
- 116
- 120
- 126

1.19) What is the area of this figure? \*



Mark only one oval.

- 288
- 300
- 352
- 432

1.20) The diameter of a circle is 6. Find the area of this circle (rounded to one decimal place). \*

Mark only one oval.

- 9.4
- 18.8
- 28.3
- 113.1