

# *Nursing*

*ATI-TEAS  
Test of Essential Academic Skills*



**Questions and Answers (PDF)**

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# Latest Version: 6.0

## Question: 1

$$1.034 + 0.275 - 1.294$$

Simplify the expression above. Which of the following is correct?

- A. 0.015
- B. 0.15
- C. 1.5
- D. -0.15

**Answer: A**

Explanation:

Start by adding the first two expressions, and then subtract 1.294 from the sum:

$$1.034 + 0.275 = 1.309$$

$$1.309 - 1.294$$

The result is 0.015.

## Question: 2

$$(2x + 4)(x - 6)$$

Simplify the expression above. Which of the following is correct?

- a.  $2x^2 + 8x - 24$
- b.  $2x^2 + 8x + 24$
- c.  $2x^2 - 8x + 24$
- d.  $2x^2 - 8x - 24$

**Answer: D**

Explanation:

Multiply in the required order, and then add:

$(2x)(x) + (2x)(-6) + (4)(x) + (4)(-6)$ . The result is  $2x^2 - 8x - 24$ .

## Question: 3

On the back of a video case, Digby notices that the listed date of production is MCMXCIV. What is this date in Arabic numerals?

- A. 1991
- B. 1994
- C. 1987
- D. 2003

**Answer: B**

Explanation:

Recall that in Roman numerals, M is 1000, D is 500, C is 100, L is 50, X is 10, V is 5, and 1 is 1.

As a result, the year MCMXCIV is 1994. (Note that the I before the V indicates that the I is subtracted from V:  $5 - 1$ , or 4. In the same way, the C before the M also indicates a subtraction, in this case 100 from 1000, or 900.)

### Question: 4

If Stella's current weight is 56 kilograms, which of the following is her approximate weight in pounds? (Note: 1 kilogram is approximately equal to 2.2 pounds.)

- A. 123 pounds
- B. 110 pounds
- C. 156 pounds
- D. 137 pounds

**Answer: A**

Explanation:

To find the correct answer, simply multiply 56 by 2.2. The result is 123.2, or approximately 123. This is Stella's weight in pounds.

### Question: 5

Zander is paid \$8.50 per hour at his full-time job. He typically works there from 8 AM to 5 PM each weekday, with a one-hour lunch break. The job offers no vacation benefits, so if Zander does not work, he does not get paid. Last week, he worked his full daily schedule of 8 hours each day, except for Wednesday when he left at 3:30 PM. Zander did take his lunch break that day. Which of the following is Zander's pay for the week?

- A. \$318.50
- B. \$327.25
- C. \$335.75
- D. \$340

**Answer: B**

Explanation:

To find the correct answer, start by adding up what Zander makes for the four full days he works: \$8.50 per hours for 32 hours (four full 8-hour days). The result is \$272. Then, add up what Zander makes on Wednesday when he leaves at 3:30 but still takes his standard one-hour lunch break. By leaving at 3:30, Zander only works 6.5 hours that day. At \$8.50 per hour, this is \$55.25 for the day. Added to \$272, the result is \$327.25.

### Question: 6

$$|2x - 7| = 3$$

Solve the expression above for x. Which of the following is correct?

- a.  $x = 4, 1$
- b.  $x = 3, 0$
- c.  $x = -2, 6$
- d.  $x = 5, 2$

**Answer: D**

Explanation:

Absolute value is determined by the distance between a number and 0 when plotted on a number line. For instance, the absolute value of  $-5$  is 5. To solve the equation in question 21 for x requires the following:

$$|2x - 7| = 3$$

$$2x - 7 = 3, \text{ or } 2x - 7 = -3$$

$$2x - 7 = 3$$

$$2x = 10, \text{ so } x = 5$$

OR

$$2x = 4, \text{ so } x = 2$$

The two possible solutions for the absolute value of the equation are 5 and 2.

### Question: 7

Between the years 2000 and 2010, the number of births in the town of Daneville increased from 1432 to 2219. Which of the following is the approximate percent of increase in the number of births during those ten years?

- A. 55%
- B. 36%
- C. 64%
- D. 42%

**Answer: A**

Explanation:

Begin by subtracting 1432 from 2219. The result is 787. Then, divide 787 by 1432 to find the percent of increase: 0.549, or 54.9%. Rounded up, this is approximately a 55% increase in births between 2000 and 2010.

### Question: 8

$$\frac{1}{4} \times \frac{3}{5} \div 1\frac{1}{8}$$

Simplify the expression above. Which of the following is correct?

- a.  $\frac{8}{15}$
- b.  $\frac{27}{160}$
- c.  $\frac{2}{15}$
- d.  $\frac{15}{40}$

**Answer: C**

Explanation:

Solve the equation in the order of operations:  $\frac{1}{4} \times \frac{3}{5}$ , or  $\frac{3}{20}$ . Follow this up with division, which is a reversal of the fraction:  $\frac{3}{20} \div \frac{9}{8}$ , or  $\frac{3}{20} \times \frac{8}{9}$ , which equals  $\frac{24}{180}$ . The result simplifies to  $\frac{2}{15}$ .

### Question: 9

While at the local ice skating rink, Cora went around the rink 27 times total. She slipped and fell 20 of the 27 times she skated around the rink. What approximate percentage of the times around the rink did Cora not slip and fall?

- A. 37%
- B. 74%
- C. 26%
- D. 15%

**Answer: C**

Explanation:

Cora did not fall 7 out of 27 times. To find the solution, simply divide 7 by 27 to arrive at 0.259, or 25.9%. Rounded up, this is approximately 26%.

### Question: 10

For her science project, Justine wants to develop a chart that shows the average monthly rainfall in her town. Which type of chart or graph is most appropriate?

- A. Pie chart
- B. Bar graph
- C. Pie chart
- D. Line graph

**Answer: D**

Explanation:

Justine's graph will be charting the amount of rainfall for each month. Line graph indicate change that occurs over a specified period of time, so this is the best type of graph for Justine to use.

### Question: 11

$$3\frac{1}{6} - 1\frac{5}{6}$$

Simplify the expression above. Which of the following is correct?

- a.  $2\frac{1}{3}$
- b.  $1\frac{1}{3}$
- c.  $2\frac{1}{9}$
- d.  $\frac{5}{6}$

**Answer: B**

Explanation:

Since the denominator is the same for both fractions, this is simple subtraction. Start by turning each expression into a fraction:

$$: \frac{19}{6} - \frac{11}{6}. \text{ The result is } \frac{8}{6}, \text{ or } 1\frac{2}{6} = 1\frac{1}{3}.$$

### Question: 12

Four more than a number,  $x$ , is 2 less than of another number,  $y$ .

Which of the following algebraic equations correctly represents the sentence above?

- a.  $x + 4 = \frac{1}{3}y - 2$
- b.  $4x = 2 - \frac{1}{3}y$
- c.  $4 - x = 2 + \frac{1}{3}y$
- d.  $x + 4 = 2 - \frac{1}{3}y$

**Answer: A**

Explanation:

The expression "Four more than a number, x" can be interpreted as  $x + 4$ . This is equal to "2 less than  $\frac{1}{3}$  of another number, y," or  $\frac{1}{3}y - 2$ .

### Question: 13

Which of the following expressions is equivalent to the one listed above?

$$\frac{2xy^2 + 16x^2y - 20xy + 8}{4xy}$$

Which of the following expressions is equivalent to the one listed above?

- a.  $\frac{2}{y} + 4x - 2xy + 2$
- b.  $2y + x^2y - 5 + \frac{xy}{2}$
- c.  $\frac{y}{2} + 4x - 5 + \frac{2}{xy}$
- d.  $\frac{x}{2} + 4xy - 16 + 2$

**Answer: C**

Explanation:

To solve the equation, start by separating each element:

$$\frac{2xy^2 + 16x^2y - 20xy + 8}{4xy}$$

$$\frac{2xy^2}{4xy}, \text{ or } \frac{y}{2}$$

$$\frac{16x^2y}{4xy}, \text{ or } 4x$$

$$-\frac{20xy}{4xy}, \text{ or } -5$$

$$\frac{8}{4xy}, \text{ or } \frac{2}{xy}$$

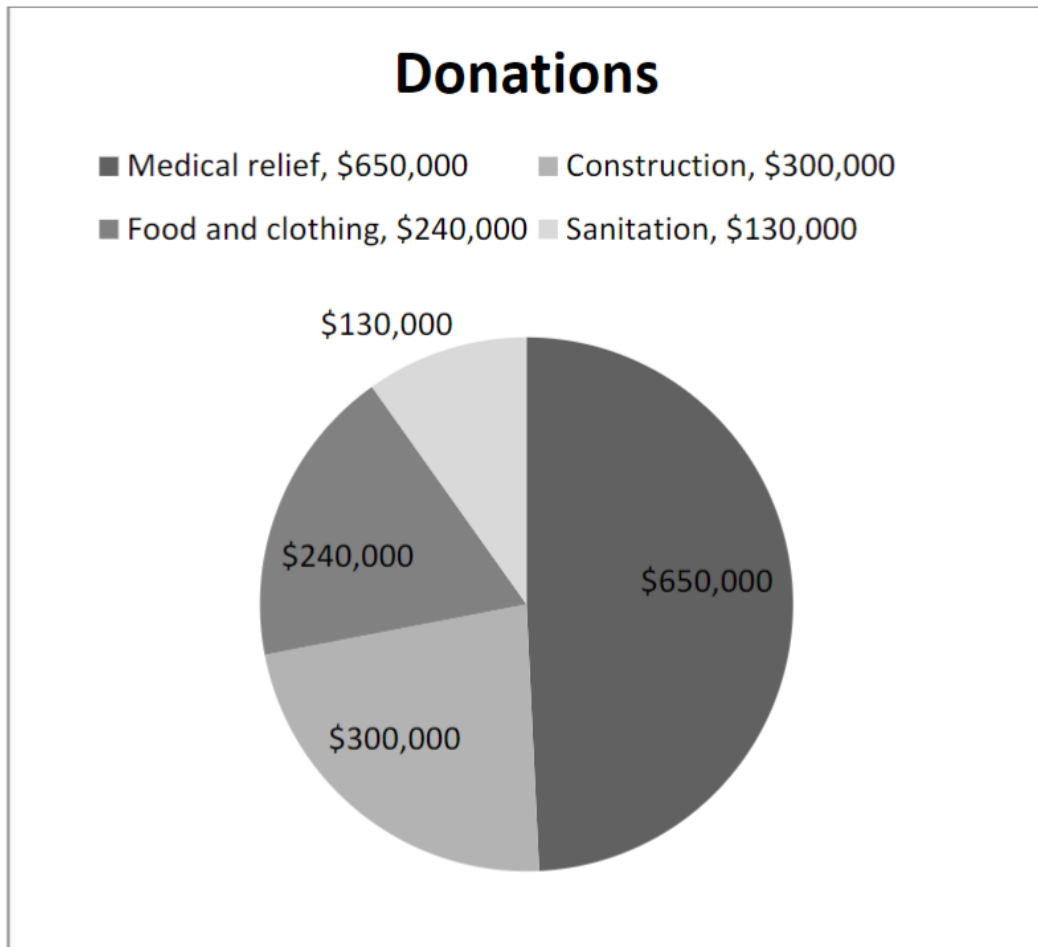
$$\text{Combine: } \frac{y}{2} + 4x - 5 + \frac{2}{xy}$$

### Question: 14

Solve the inequality above for x. Which of the following is correct?

$$4x - 6 \geq 2x + 4$$

- a.  $x \geq 5$
- b.  $x \geq 8$
- c.  $x \leq 2$
- d.  $x \geq 0$



**Answer: A**

Explanation:

To solve, move the terms with  $x$  to the same side of the equation and the whole numbers to the other:



$$4x - 6 \geq 2x + 4$$

$$2x \geq 10$$

$$x \geq 5$$

You can test this answer by filling in a number greater than 5 to see if the inequality still holds. For instance, with the number 7:

$$4(7) - 6 \geq 2(7) + 4$$

The number 22 (or  $28 - 6$ ) is greater than (though obviously not equal to) 18 (or  $14 + 4$ ), so the inequality works. The only time when the two sides are equal is when  $x = 5$ .

Note that answer choice B contains a number greater than 5 that also works to make the inequality correct (when the left side of the equation is greater than the right side). The number 8 works only for "greater than," however, and does not solve for "equal to," so answer choice B cannot be the correct answer.

## Question: 15

After a hurricane struck a Pacific island, donations began flooding into a disaster relief organization. The organization provided the opportunity for donors to specify where they wanted the money to be used, and the organization provided four options. When the organization tallied the funds received, they allotted each to the designated need. Reviewing the chart above, what percentage of the funds was donated to support construction costs?

- A. 49%
- B. 23%
- C. 18%
- D. 10%

**Answer: B**

Explanation:

Start by locating the section of the pie chart that represents construction. It looks close to a quarter of the pie chart, which means that it is probably 23%, but you can verify by adding up the numbers. The total amount of all donations is about \$1.3 million and the amount given for construction is \$0.3 million.  $0.3/1.3 = 0.227 \approx 23\%$