

ATI TEAS 7 MATHEMATICS EXAM
QUESTIONS AND ANSWER I
UPDATED NURSING VERSION

Which of the following is the percentage equivalent of 0.0016? A. 16%

B. 160%

C. 1.6%

D. 0.16% - D. To derive a percentage from a decimal, multiply by 100: $0.0016(100) = 0.16\%$

Curtis is taking a road trip through Germany, where all distance signs are in metric. He passes a sign that states the city of Dusseldorf is 45 kilometers away. Approximately how far is this in miles?

A. 42 miles

B. 37 miles

C. 28 miles

D. 16 miles –

C. one kilometer is about 0.62 miles, $45(0.62) = 27.9$ approximately 28 miles

On a floor plan drawn at a scale of 1:100, the area of a rectangular room is 30 cm². What is the actual area of the room?

A. 30,000 cm²

B. 300 m²

C. 3,000 m²

D. 30 m² - D. Since there are 100 cm in a meter, on a 1:100 scale drawing, each centimeter represents one meter. Therefore, an area of one square centimeter on the drawing represents one square meter in actuality.

- Since the area of the room in the scale drawing is 30 cm², the room's actual area is 30 m².

$$L/100 \times W/100 = 30 \text{ cm}^2$$

$$lw/100 = 30 \text{ cm}^2$$

$$\text{Area} = 300,000$$

$$\text{cm}^2$$

$$300,000 \text{ cm}^2 \times 1\text{m}/100 \text{ cm} \times 1\text{m}/100 \text{ cm} = 30\text{m}^2$$

Mandy can buy 4 containers of yogurt and 3 boxes of crackers for \$9.55. She can buy 2 containers of yogurt and 2 boxes of crackers for \$5.90. How much does one box of crackers cost?

A.

\$1.75

B.

\$2.00

C.

\$2.25

D. \$2.50 - C.

The situation may be modeled

by the system: $4x + 3y = 9.55$

$2x + 2y = 5.90$

Multiplying the bottom equation by - 2 gives:

$$4x + 3y = 9.55$$

$$-4x - 4y = -11.80$$

Addition of the two equations gives $-y = -2.25$ or $y = 2.25$. Thus, one box of crackers costs \$2.25

$$9.55 - 11.80 = -2.25$$

$$-y = -2.25$$

$$-y/-1 = -2.25/-1$$

$$y = 2.25$$

1.

THE NEXT TWO QUESTIONS ARE BASED ON THE FOLLOWING INFORMATION:

Pernell's scores on her last five chemistry exams were 81, 92, 87, 89, and 94.

What is the approximate average of her scores? A. 81

B. 84

C. 89

D. 91 - C. To find the average of Pernell's scores, add them up and then divide by the number of scores (5 in this case). In other words,

$$81 + 92 + 87 + 89 + 94 = 443$$

$$443/5 = 89$$

2.

THE NEXT QUESTIONS ARE BASED ON THE FOLLOWING INFORMATION:

Pernell's scores on her last five chemistry exams were 81, 92, 87, 89, and 94.

What is the medium of

Pernell's scores? A. 87

B. 89

C. 92

D. 94 - B. To find the median, list the series of numbers from least to greatest. The middle number represents the median -- in this case 81, 87, 89, 92, 94.

The number 89 is in the middle, so it is the median.

Gordon purchased a television when his local electronics store had a sale. The television was offered at 30% off its original price of \$472.

What was the sale price that Gordon paid?

A.

\$141.60

B.

\$225.70

C.

\$305.30

D. \$330.40 - D. The television is 30% off its original price of \$472.

30% of 472 is 141.60. $(0.30)(472) = 141.60$

$$472 - 141.60 = 330.40$$

Thus, Gordon paid \$330.40 for the television.

Simplify the following

expression: $(\frac{2}{3}) /$

$(\frac{4}{15}) \times (\frac{5}{8})$

A. 1

9/1

6 B.

1 1/4 C.

2 1/8

D. 2 - A. To simplify, proceed in the order of the

operations: $(2/3) \div (4/15) = (3/2) \times (15/4) =$

$30/12 = 10/2 = 5/2$

$5/2 \times 5/8 = 25/16 = 1 \frac{9}{16}$

Simplify following expression:

0.0178 X 2.401

A. 2.0358414

B. 0.0427378

C. 0.2341695

D. 0.3483240 - B. This is a simple matter of multiplication. The product is 0.0427378.

Tom needs to buy ink cartridges and printer paper. Each ink cartridge costs \$30. Each ream of paper costs \$5. He has \$100 to spend. Which of the following inequalities may be used to find the combinations of ink cartridges and printer paper that he may purchase?

A. $30c + 5p < 100$

B. $30c + 5p < 100$

C. $30c + 5p > 100$

D. $30c + 5p > 100$ - A. The inequality will be less than or equal to, since he may spend \$100 or less on his purchase.

Solve for x:

$$4(2x-6) = 10x-6$$

A .

$$x =$$

5 B.

$$x =$$

-7

$$C. x = -9$$

D. $x = 10$ - C. Multiplying the equation results in the following:

$$8x - 24 = 10x - 6$$

$$+6 +6$$

$$8x - 18 = 10x$$

$$-8x -8x$$

$$-18 = 2x$$

$$-18/2 = 2x/2$$

$$-9 = x$$

$$x = -9$$

Erma has her eye on two sweaters at her favorite clothing store, but she has been waiting for the store to offer a sale. This week, the store advertises that all clothing purchases, including sweaters, come with an incentive: 25% off a second item of equal or lesser value. One sweater is \$50 and the other is \$44. If Erma purchases the sweaters during the sale, what will she spend?

A.

\$79

B.

\$81

C.

\$83

D. \$85 - C. Erma's sale discount will be applied to the less expensive sweater, so she will receive the \$44 sweater for 25% off.

This amount to a discount of \$11, so the cost of the sweater will be \$33.

$$44 \times .25 = 11$$

$$44 - 11 = \$33$$

Added to the cost of the \$50 sweater, which is not discounted, Erma's total is \$83.

$$\$33 + \$55 = \$83.$$

Simplify the following expression:

$$1.034 + 0.275 - 1.294$$

A. 0.015

B. 0.15

C. 1.5

D. -0.15 - A. Start by adding the first two expressions, and then subtract 1.294 from the sum:

$$1.034 + 0.275 - 1.294$$

$$1.034 + 0.275 = 1.309$$

$$1.309 - 1.294 = 0.015$$

The graph below shows the weekly church attendance among residents in the town of Ellsford, with the town having five different denominations: Episcopal, Methodist, baptist, Catholic, and Orthodox. Approximately what percentage of church-goers in Ellsford attends Catholic Churches?

A. 23%

B. 28%

C. 36%

D. 42% - B. Adding up the number of church-goers in Ellsford resulting about 1450 residents who attend a church in the town each week. There are approximately 400 people in Ellsford who attend a Catholic Church each week. This number represents about 28% of the 1450 church-goers in the town.

Jerry needs to load four pieces of equipment on to a factory elevator that has a weight limit of 800 pounds. Jerry weighs 200 pounds. What would the average weight of each item have to be so that the elevator's weight limit is not exceeded assuming Jerry accompanies the equipment?

A. 128 pounds

B. 150 pounds

C. 175 pounds

D. 180 pounds - B. To solve, first subtract Jerry's weight from the total permitted: $800 - 200 = 600$

Divide 600 by 4 (the four pieces of equipment) to get 150, the average weight. $600 / 4 = 150$

Simplify the following
expression: $4 \frac{2}{3} \div 1$
 $\frac{1}{6}$

A. 2

B.

3

$\frac{1}{3}$

3

C.

4

D. $4 \frac{1}{2}$ - C. Turn both expressions into fractions, and then multiply the first by the reverse of the second:

$$= (14/3) / (7/6)$$

$$= (14/3) \times (6/7)$$

$$= 14 \times 6 = 84$$

$$= 3 \times 7 = 21$$

$$84/21 = 4$$

Solve
for x:

$$2x + 4$$

$$= x -$$

$$6$$

A. x

$$= -$$

12 B.

$$x =$$

10 C. x =

$$- 16$$

D. x = - 10 - D. Begin by subtracting 4 from both sides, then subtract x from both sides:

$$2x + 4 = x - 6$$

$$-4 - 4$$

$$2x = x - 10$$

$$-x - x$$

$$x = -10$$

Solve

for x:

$$2x - 7$$

=

3

A.

x

=

4

B.

x

= 3

$$C. x = -2$$

D. $x = 5$ - D. To solve the equation for x , you can follow the steps below:

$$2x - 7 = 3$$

$$+7 \quad +7$$

$$2x = 10$$

$$2x/2 = 10/2$$

$$x = 5$$

What kind of association does the scatter

plot show? A. linear, positive

B.

linear,

negative

C.

quadratic

D.

D. no association - D. The points do not show any trend line or trend curve at all. So, there is no association in the scatter plot.