

Mat095 Departmental Final Exam ReviewYour Quiz/Test Contains 50 question(s).**1) Evaluate : $15 - 28 \div (-4) \times 2$**

a) 29

b) - 29

c) $8\frac{2}{3}$

d) - $8\frac{2}{3}$

2)

Simplify the following numerical expression :

$$15 - 21 \div 7 \times (-4) + 25$$

3) Convert to an algebraic expression and simplify, if x stands for the unknown number : the sum of a number and three more than the number.

a) $2x + 3$

b) $x + 3$

c) $3x$

d) $x + 6$

4) Convert to an algebraic expression and simplify, if x stands for the unknown number : the sum of three times a number and three less than the number.

a) $3x + 4$

b) $6x$

c) $4x - 3$

d) $9x - 3$

5) Evaluate: $\frac{5c + d}{5c - d}$ for $c = 12$, $d = 4$

a) - 1

b) $\frac{8}{7}$

c) 2

d) $-\frac{8}{7}$

6) Find the value of $3x^4 - 5x^2 + x - 3$ when $x = -2$.

a) 23

b) -23

c) 64

d) 72

7) Four times a certain number plus that number equals 55. What is that number ?

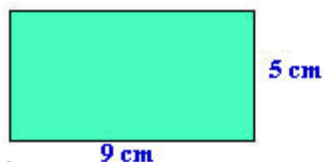
a) 5

b) 15

c) 11

d) 20

8) Find the area of the following rectangle.



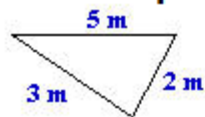
a) 45 cm

b) 14 cm^2

c) 45 cm^2

d) 28 cm

9) Find the perimeter of the following figure.



- a) $10\ m$
- b) $11\ m$
- c) $10\ m^2$
- d) $11\ m^2$

10) Express 60 as a product of prime factors.

- a) $15 \cdot 2^2$
- b) $2^2 \cdot 3 \cdot 5$
- c) $2 \cdot 3^2 \cdot 5$
- d) $2^2 \cdot 3^2 \cdot 5$

11) Which of the following statements is true ?

P : 23 is a prime number Q : The prime factors of 18 are 2, 3 and 3.

- a) P only
- b) Q only
- c) Both P and Q
- d) Neither P nor Q

12)

Three bells ring at regular intervals of **20**, **12**, and **18** minutes, respectively. At what time will they ring together again if they start simultaneously at **12** noon? How many times will each bell ring during that time?

13) The fraction $\frac{42}{18}$ reduced to lowest terms is

a) $\frac{1}{4}$

b) $\frac{24}{9}$

c) $\frac{7}{3}$

d) $\frac{3}{1}$

14)

Arrange the following fractions in descending order :

$$\frac{3}{4}, \frac{7}{12}, \frac{12}{15}$$

15) Alice has solved 35 problems of the 60 problems assigned . What fraction (in lowest terms) of the problems has been completed ?

a) $\frac{1}{2}$

b) 52 %

c) $\frac{1}{3}$

d) $\frac{7}{12}$

16) Mary reads 24 books in a year and Bob reads 32 books in a year. The ratio of the books read by Mary to the books read by Bob is

a) $\frac{1}{4}$

b) $\frac{4}{1}$

c) $\frac{4}{3}$

d) $\frac{3}{4}$

17) Betty drove her car and covered a distance of 560.9 miles in 8.0 hours. What was her speed for the trip? (Round to the nearest tenth.)

- a) 55.7 miles per hour
- b) 70.1 miles per hour
- c) 80 miles per hour
- d) 65.5 miles per hour

18) Simplify : $\frac{9}{5} - \frac{2}{3} \div \frac{4}{3}$

- a) $3\frac{1}{10}$
- b) $-1\frac{3}{10}$
- c) $1\frac{3}{10}$
- d) $-10\frac{1}{3}$

19)

Simplify the expression :

$$\frac{1}{3} + \frac{2}{9} \times \frac{27}{4}$$

20)

Solve the equation:

$$\frac{3}{5}x - 7 = 4$$

21) Find the average of $\frac{3}{5}$, $\frac{4}{5}$ and $\frac{8}{5}$.

a) $\frac{23}{40}$

b) $\frac{39}{40}$

c) 1

d) $\frac{3}{7}$

22)

During the previous year, **510** out of **1,870** students received financial aid. What fraction of the students received financial aid?

23) **Martin can type 240 words in 5 minutes. At this rate, how many words can he type in 10 minutes ?**

a) 480

b) 650

c) 400

d) 450

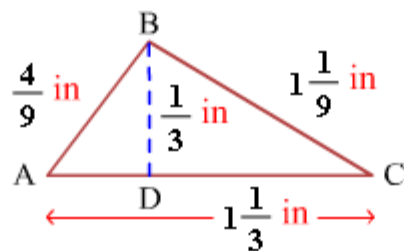
24)

If the total airfare for a family of **4** to attend a family reunion costs **\$3,144**, what is the cost **per** person?

25)

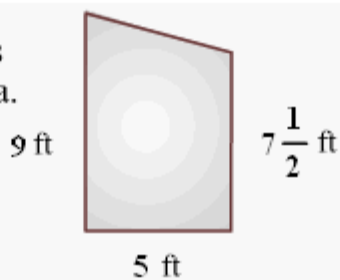
A machine harvests **3** acres of beans in $3\frac{1}{2}$ hours. How long will it take to harvest **31** acres?

Evaluate the perimeter and area.



27)

The side wall of a lean-to shed is pictured to the right. Find its area.



28) The decimal 355.26384 rounded to the nearest thousandths is:

- a) 355.264
- b) 355.26
- c) 355,000
- d) 355.263

29)

Write the numbers below in ascending order:

0.6 , 0.345 , 0.4564

30)

Express $\frac{20}{60}$ as a decimal to the nearest hundredth.

31) Compute: $4.67 + (5.3)(1.2) - 6.91$

- a) 4.12
- b) 1.12
- c) 10.12
- d) 12.14

Simplify the numerical expression.

$$16.4 \div [(0.5)^2 + 0.3 \times 1.9] - 6.2$$

33)

Solve the equation :

$$7.5x - 9.3 = x + 3.8$$

34)

Find the amount of Samantha's paycheck deduction for social security tax. The rate of social security tax is **4.2 %** of gross pay. Samantha's gross pay for the week was **\$ 320** .

35)

During a rain storm **6.5** inches of rain was recorded in **2.5** hours. At what rate did it rain during this time?

36)

On a map, **1 inch** represents **2.7 miles**. The distance on the map between two cities is **5.13 inches**. How many miles apart are the cities?

37)

Find the circumference of a circle whose radius is **3.3 cm**.
Round the answer to the nearest tenth of a centimeter.
Use $\pi \approx 3.14$.

38)

Find the area of a circle whose radius is **7.5 cm**.
(Use $\pi = 3.14$)

39) Find the percent equivalent to the ratio 14 to 25.

- a) 25%
- b) 20%
- c) 14%
- d) 56%

40) Express $\frac{27}{8}$ as a percent.

- a) 0.3375%
- b) 3.375%
- c) 33.75%
- d) 337.5%

41) The City bank charges 9.5% interest on auto loans, while Wachovia bank charges at the rate of 0.085. Which of the two rates is higher?

- a) Wachovia bank
- b) Both rates are the same
- c) City bank
- d) Can not be determined

42) 75% of 310 is

- a) 2,325
- b) 23.25
- c) 232.5
- d) 2.325

43) On a certain day, 7 out of 35 students of an algebra class were absent. What percent of the class was absent ?

- a) 22.5%
- b) 25%
- c) 15%
- d) 20%

44) Jay spent 30% of his \$50 allowance and Mike spent 60% of his \$30 allowance. Who spent less ?

- a) Jay
- b) Mike
- c) Both spent the same
- d) Can not be determined

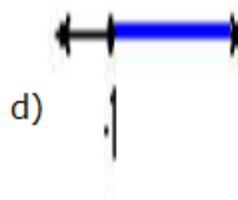
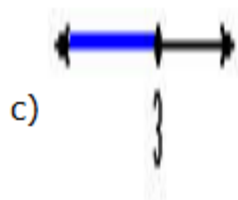
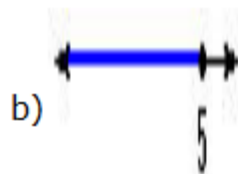
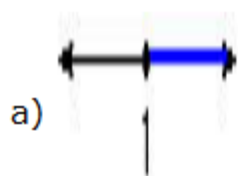
45) A 14% discount on a \$100 purchase means a reduction in cost by:

- a) \$15
- b) \$10
- c) \$14
- d) \$20

46) Which of the following is a solution for $6x + 5 > 12x - 13$?

- a) $x < 3$
- b) $x > 3$
- c) $x < -3$
- d) $x > -3$

47) Graph the inequality : $3x - 3 \leq 6$



48) Simplify and write without exponents :
 $(1.2 \times 10^5) \times (1.5 \times 10^{-2})$

a) 1,800

b) 6.3

c) .0018

d) 18

49) Simplify and write without exponents : $\left[\frac{4.4 \times 10^{-3}}{2.5 \times 10^2} \right]$

a) 0.00176

b) 0.0000176

c) 1.76

d) 176,000

Light travels 300,000,000 meters per second. A light year is the distance that light travels in one year. Use scientific notation to express the number of meters traveled in three light years.

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Answer Key

1) a) 29

2) Simplify the following numerical expression :

$$15 - 21 \div 7 \times (-4) + 25$$

3) a) $2x + 3$

4) c) $4x - 3$

5) b) $\frac{8}{7}$

6) a) 23

7) c) 11

8) c) 45 cm^2

9) a) 10 m

10) b) $2^2 \cdot 3 \cdot 5$

11) c) Both P and Q

12) Three bells ring at regular intervals of **20**, **12**, and **18** minutes, respectively. At what time will they ring together again if they start simultaneously at **12** noon? How many times will each bell ring during that time?

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15) d) $\frac{7}{12}$

16) d) $\frac{3}{4}$

17) b) 70.1 miles per hour

18) c) $1\frac{3}{10}$

19) Simplify the expression :

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21) c) 1

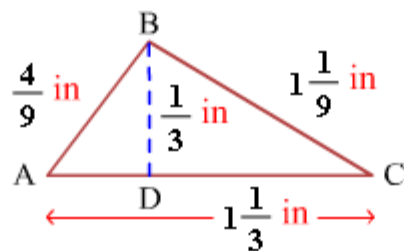
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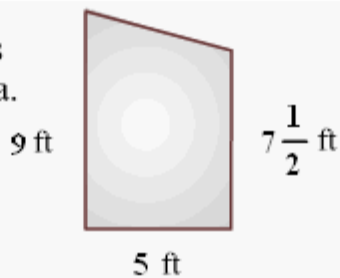
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(Use $\pi = 3.14$)

39)

d)56%

40)

d)337.5%

41)

c)City bank

42)

c)232.5

43)

d)20%

44)

a)Jay

45)

c)\$14

46)

a) $x < 3$

47)

c)

48)

a)1,800

49)

b) 0.0000176

50)

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