

Math103 General Mathematics First Mid-Term Examination 22.10.2022 13:00		
Last Name :	Instructors : S. Kozpınar and A. Gökteş	Signature
Name :	Time : 13:00	
ID Number :	Duration : 40 minutes	
20 Questions on 2 Pages	Each Question is 5 Points	TOTAL 100 POINTS
	YOUR SCORE	

$$25 \div 1/25 = 25 \times \frac{25}{1} = 25 \times 25 = \boxed{625}$$

1. 25 divided by $1/25$ is equal to:

- a) 1 b) 25 c) 625

2. The value of $[(-3) - (+7)] - 5$ is: $[-3-7]-5 = -10-5 = -15$

- a) -1 **b) -15** c) -25

3. $3 \times 11 - 6 \div 3 - 12: = 33 - 2 - 12 = 31 - 12 = 19$

- a) -7 b) -3 c) 19

4. The arithmetic mean of 12 numbers is 5. If two of the numbers are 5 and 7, what is the mean of the other ten?

- a) 4.8 b) 6 c) 6.2 $5+7=12$

5. If the fractions $\frac{2}{5}$, $\frac{3}{7}$ and $\frac{1}{3}$ arranged in order of size, largest first, the order would be:

- a) $\frac{3}{7} \cdot \frac{2}{5} \cdot \frac{1}{3} = \frac{2}{5} \times \frac{21}{21} = \frac{42}{105}$ b) $\frac{3}{7} \times \frac{15}{15} = \frac{45}{105}$ c) $\frac{1}{3} \times \frac{35}{35} = \frac{35}{105}$

6. $4\frac{3}{4} + 5\frac{3}{5}$ is equal to:

- a) $6 \frac{4}{4} - \frac{4}{4} - \frac{4}{4}$ b) $10 \frac{7}{20}$ c) $9 \frac{7}{20}$

7. $\frac{8}{9} \div \frac{1}{3}$ is equal to: $\frac{8}{\cancel{9}} \times \frac{3}{\cancel{1}} = \frac{8}{3} = \frac{6+2}{3} = \frac{6}{3} + \frac{2}{3} = 2 + \frac{2}{3} = 2\frac{2}{3}$

- a) $3\frac{1}{2}$ b) $\frac{8}{27}$ c) $2\frac{2}{3}$

8. 274000 is written in Standard Form is: 2.74×10^5

- a) 27.4×10^4 **b) 2.74×10^5** c) 2.74×10^6

9. $4 \times 10^{-5} \times 5 \times 10^{-3} \times 5 \times 10^6$ is equal to: $4 \times 5 \times 5 \times 10^{-5} \times 10^{-3} \times 10^6 = 100 \times 10^{-2} = 10^2 \times 10^{-2} = 10^0 = 1$

- a) 1 b) 25×10^{-2} c) 10

10. Which of the following is a prime number:

- a) 49 b) 63 c) 91

11. If $1\text{ lb} = 0.45\text{ kg}$, then 90 kg is equivalent to:

- a) 100 lb **b) 200 lb** c) 300 lb

12. If £140 is divided in the ratio 2:5, then the smaller share is: $2+5=7$ shares

- a) £20 $\frac{140}{7} = 20$ for each share (b) £40 The small share would be 10 c) £100

13. 2, 3 and 7 are the factors of:

- a) 6 $2 \times 3 \times 7 = 42$ b) 14 c) 42

14. A triangle has an altitude of 60 mm and a base of 30 mm . Its area is not:

- a) 1800mm^2 b) 9cm^2 c) 900mm^2

15. $(3x + 5) - (-2x - 5)$ is equal to: $3x+5+2x+5=5x+10=5 \times x+5 \times 2=5 \times (x+2)$

- a) x b) $5x$ c) $5(x+2) = 5(x+2)$

$$\frac{bc^2}{d^2} \times \frac{a^2}{1} \Rightarrow bc^2 \times 1 = a^2 \times d^2 \Rightarrow bc^2 = a^2 d^2 \Rightarrow c^2 = \frac{a^2 d^2}{b} \Rightarrow c = \sqrt{\frac{a^2 d^2}{b}}$$

16. When c is made the subject of the formula $\frac{bc^2}{d^2} = a^2$, the answer is :

$$c = \frac{ad}{\sqrt{b}}$$

a) $c = \frac{da}{\sqrt{b}}$

b) $c = \sqrt{\frac{da}{b}}$

c) $c = \frac{d^2 a^2}{b}$

17. The volume, in cubic centimetre, of a circular cylinder of radius 5 cm and height 50 cm is:

a) 500π

$$V = r^2 h \pi = 5^2 \times 50 \times \pi = 1250\pi$$

b) 750π

c) 1250π

18. Round off the decimal number expressed as $\frac{19}{27}$ into three decimal places :

a) 0.703

b) 0.704

$$\begin{array}{r} 0.70373737 \\ 27 \overline{) 190} \\ \underline{189} \\ 100 \\ \underline{81} \\ 190 \end{array}$$

c) 0.705

19. Correct 23.4547 to three significant figures :

a) 23.4

b) 23.5

c) 23.500

20. What is the least common multiple (LCM) and highest common factor (HCF) of the numbers 15, 20 and 30 :

a) LCM=60 and HCF=5

b) LCM=5 and HCF=60

c) LCM=60 and HCF=10

15	30	45	60	75	90	105	120	135	150
20	40	60	80	100	120	140	160	180	200
30	60	90	120	150	180	210	240	270	300

$$15 = 3 \times 5$$

$$20 = 2 \times 2 \times 5$$

$$30 = 2 \times 3 \times 5$$

BEST LUCK