

Biruh Tesfa primary school 2015 E.C mathematics model exam for grade 8

I. Choose the correct answer from the given four alternatives.

1. Which of rational numbers $\frac{11}{30}$, $\frac{-18}{14}$, $\frac{7}{5}$, $\frac{-45}{50}$, is the greatest?

A. $\frac{11}{30}$

B. $\frac{-45}{50}$

C. $\frac{7}{5}$

D. $\frac{-18}{14}$

2. Which of the following forms a pair of equivalent rational numbers?

A. $\frac{3}{4}$ and $\frac{11}{40}$

B. $\frac{5}{7}$ and $\frac{2}{4}$

C. $\frac{2.2}{2}$ and $\frac{11}{10}$

D. $\frac{9}{8}$ and $\frac{14}{13}$

3. What is the absolute value of X if $X=2Y+3$ and $Y= -4$?

A. -5

B. 11

C. -11

D. 5

4. If a, b and c are rational numbers, then which one of the following statements is **not** true?

A. $a(b \times c) = ab + ac$
 $= (a+b) + c$

C. $a+(b+c)$

B. $a+b = b+a$
 ac

D. $a(b-c) = ab -$

5. what is the simple interest on 6,000 birr at 5% rate for 3 years?

A. 1500 birr

B. 900 birr

C. 4000 birr

D. 300 birr

6. Which one of the following is **not** rational number?

A. $\sqrt{3}$

B. 1.523

C. $\frac{-3}{4}$

D. $3\sqrt{\frac{-8}{64}}$

7. If Y is a rational number and $0 < Y < 1$, then which one of the following numbers **cannot** be the value of Y?

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A. $\frac{1}{2}$

B. $\frac{4}{3}$

C. $\frac{10}{11}$

D. $\frac{5}{6}$

8. $(-0.2)(-0.8) + (0.5)(-0.1)$ is equal to ?

A. -0.11

B. 0.21

C. 0.11

D. 0.12

9. One of the following is both perfect square and perfect cube?

A. -8

B. 16

C. 27

D. 64

10. Which one of the following is true?

A. $(\sqrt{4})^2 = 2$

B. $0^2 = 2$

C. $3\sqrt{-1} = 1$

D. $(-3)^4 = 81$

11. The simplified expression of $(\sqrt{30})^2 + (\sqrt{10})^2$ is

A. 40

B. 160

C. 910

D. 130

12. Which one of the following is **not** true?

A. $1 < (1.5)^2 < 4$

C. $25 < (4.5)^2 < 36$

B. $9 < (3.4)^2 < 16$

D. $49 < (7.3)^2 < 64$

13. If $(3.2)^2 = 10.24$ then, what is the value of $\sqrt{1024}$?

A. 3.2

B. 0.32

C. 32

D. 320

14. The simplified form of $\frac{3\sqrt{(8000)} \times 3\sqrt{(-27)}}{3\sqrt{(-64/1000)}}$ is

A. 150

B. 200

C. -150

D. 500

15. Which one of the following is true about the equation $3Y = -6X + 9$?

A. The slope is -6.

B. The line passes through the origin.

C. The Y- intercept is 9.

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D. The X- intercept is $\frac{3}{2}$.

16. Which one of the following **has no** solution in the set of natural numbers?
- A. $4X+3 = 11$ C. $2X-1 = X+5$
B. $7X+6 = 6(x+1)$ D. $2(X+4) = 18$
17. If four times positive integer decreased by 6 is less than 2, then what is the number?
- A. $\{1, 2\}$ B. 1 C. 0 D. $\{0,1\}$
18. Which of the following equation of a graph has undefined slope?
- A. $4X-2Y = 3$ C. $2Y +11 = 10$
B. $X+6 = 7$ D. $14X+15Y = 0$
19. If three consecutive natural numbers be the interior angles of a triangle, then what is the smallest angle?
- A. 60 B. 58 C. 61 D. 59
20. The length of legs of right triangle ABC are 3cm and 4 cm. The shortest side of $\triangle DEF$ is 6 cm and $\triangle ABC \sim \triangle DEF$. How long is the hypotenuse of $\triangle DEF$?
- A. 5 B. 7 C. 8 D. 10
21. The area of $\triangle XYZ$ is 20 cm^2 and the area of $\triangle STV$ is 80 cm^2 . If $\triangle XYZ \sim \triangle STV$, what is the ratio of XY to ST?
- A. 1:2 B. 1:4 C. 2:1 D. 4:1
22. Given $\triangle EFD$ and $\triangle PQR$, if $\angle F \cong \angle Q$ and $\frac{EF}{PQ} = \frac{FD}{QR}$, then by which theorem are the triangles similar?
- A. SAS - similarity C. AA - similarity
B. SSS - similarity D. ASA - similarity
23. Which one of the following is **not** true about similarity?
- A. Any similar polygons are necessarily congruent.

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- B. A tree and its shadow are similar.
 C. Any two regular hexagons are similar.
 D. Any geometric figure is similar to itself.
24. One exterior angle of a triangle is 150° . what is the value of X if the interior remote angles are $(2x+30)^\circ$ and 50° ?
 A. 70° B. 50° C. 35° D. 100°
25. If the measure of three angles of a triangle are $\frac{1}{2}\alpha$, $\frac{3}{2}\alpha$, and 4α , then what is the measure of the largest angle of the triangle?
 A. 30° B. 45° C. 120° D. 110°
26. In $\triangle ABC$ the measure of $\angle A = 30^\circ$, the measure of $\angle B$ is twice of the measure of $\angle C$. then what is the measure of $\angle C$?
 A. 150° B. 40° C. 100° D. 50°
27. Which of the following **cannot** be the length of sides of a triangle in the same unit of length?
 A. 5, 12, 13 B. 30, 40, 50 C. 4, 7, 8 D. 6, 8, 10
28. Which of the following line may not have the possibility to pass through the interior point of the circle?
 A. Secant line B. diameter C. tangent line D. chord
29. In figure below $\angle ABC$ is inscribed in a circle and its subtended arc is AC, then what is the $m(\angle ABC)$?

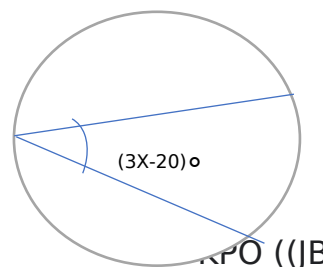
A. 30°

C. 70°

B. 140°

D. 60°

$(2x+80)^\circ$



A

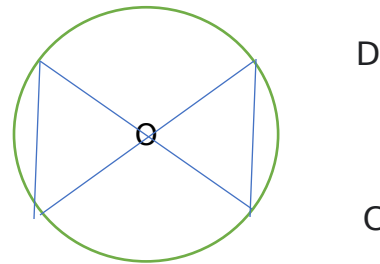
C

30. Saron observes that the time is 3:00 o'clock what is the angle between the hands of the clock?
 A. 90° B. 60° C. 120° D. 180°

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31. In figure below O is the center of the circle and $m(\angle ABC) = 50^\circ$. What is $m(\angle BCD)$?

A. 160° C. 75°
B. 50° D. 90°



32. What is the volume of cube with side length 6 cm?
A. 36 cm^3 B. 216 cm^3 C. 18 cm^3 D. 256 cm^3
33. The base of right prism is regular heptagon of side 5 cm with height of 10 cm. what is the lateral surface area?
A. 210 cm^2 B. 350 cm^2 C. 240 cm^2 D. 312 cm^2
34. What is the height of a cylinder with radius 3 cm and volume $81\pi \text{ cm}^3$?
A. 6 cm B. 9cm C. 27 cm D. 18 cm
35. A 3D object with two parallel and congruent circular bases is:
A. Cone B. cylinder C. pyramid D. prism
36. What is the probability of choosing vowel letters from the word "MATHEMATICS" ?
A. $\frac{1}{11}$ B. $\frac{4}{11}$ C. $\frac{7}{11}$ D. $\frac{5}{11}$
37. How many edges hexagonal pyramid has?
A. 12 B. 7 C. 10 D. 6
38. The number of possible outcomes when a coin is tossed three times is
A. 8 B. 6 C. 11 D. 7
39. A playing card is drawn from well-shuffled pack of 52 cards. What is the probability of hearts.
A. $\frac{1}{4}$ B. $\frac{1}{13}$ C. $\frac{1}{2}$ D. $\frac{2}{26}$

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40. In a box, there are 6 red, 5 blue, and 4 green balls. 1 ball is pick up randomly. What is the probability of the picked ball is neither red nor green?

A. $\frac{1}{2}$

B. $\frac{1}{3}$

C. $\frac{3}{5}$

D. $\frac{5}{3}$