



Matematik ve Geometri Testi



$$\begin{array}{r} 1- \quad ABC \\ \quad 35 \\ \times \\ \hline \quad \dots \\ \quad 369 \\ + \\ \hline \quad XYZT \end{array}$$

$XYZT = ?$

- A) 984 B) 3705 C) 4205
D) 4295 **E) 4305**

$$2- \frac{18^3}{27^3 + 18^3 + 9^3} = ?$$

- A) $\frac{1}{9}$ **B) $\frac{2}{9}$** C) $\frac{1}{3}$ D) $\frac{2}{3}$ E) 1

$$3- \frac{a-2}{a-3} = \frac{a-1}{a-4},$$

$a = ?$

- A) $\frac{-5}{2}$ B) $\frac{-11}{4}$ C) $\frac{-2}{11}$ **D) $\frac{5}{2}$** E) $\frac{11}{4}$

$$4- 6 \cdot (0,3)^2 + (0,6)^2 = ?$$

- A) 0,9** B) 2,4 C) 4,14 D) 4,5 E) 5,76

5- $a = \frac{2x}{x-y}$, $b = \frac{2y}{x+y}$,

$$\frac{a+b-2}{a.b} = ?$$

A) -2 B) -1 C) 0 **D) 1** E) 2

6- $a, b \in \mathbb{R}$,

$$a^2 - 2a = b^2 - 2b, \quad a.b = -2,$$

$$a^2 + b^2 = ?$$

A) 6 B) 7 **C) 8** D) 9 E) 10

7- $\frac{3^{2x}}{2^{3x}} = \frac{1}{7}$,

$$\frac{1}{7^x} = ?$$

A) $\frac{9}{2}$ B) $\frac{3}{2}$ C) $\frac{9}{8}$ **D) $\frac{8}{9}$** E) $\frac{2}{3}$

8- $f, g: \mathbb{R} \rightarrow \mathbb{R}$,

$$f(x) = |3x - 2|, \quad g(x) = |x + 1|,$$

$$(g \circ f)(x) = 2$$

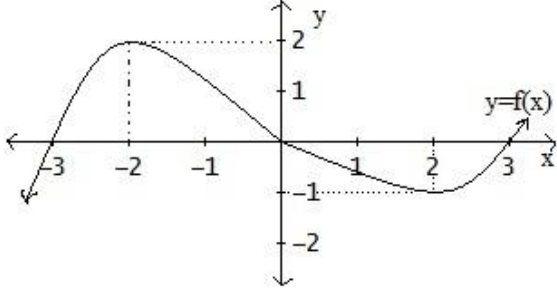
eşitliğini sağlayan x değerlerinin toplamı kaçtır?

A) $\frac{-1}{3}$ B) 0 C) $\frac{1}{3}$ D) 1 **E) $\frac{4}{3}$**

9- $1 < n < 70$ olmak üzere pozitif bölenlerinin sayısı 3 olan kaç tane n tam sayısı vardır?

A) 5 B) 6 **C) 7** D) 8 E) 9

10-

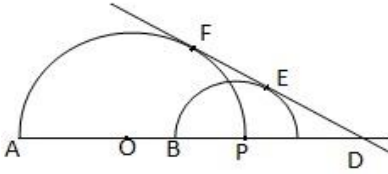


$$g(x) = 5 - f(x + 1),$$

$$g(-4) + g(1) = ?$$

- A) 11 B) 10 C) 9 D) 8 E) 7

11-



Şekildeki O ve P merkezli yarım çemberlerin yarıçapları sırayla 4 ve 2 cm ise $\tan \widehat{ADE} = ?$

- A) $\frac{1}{2}$ B) $\frac{\sqrt{3}}{3}$ C) $\frac{2}{3}$ D) $\frac{-1}{2}$ E) $\frac{-\sqrt{3}}{3}$

12-

$\log_2(x + 1) + \log_2(x - 3) = 5$ denkleminin çözüm kümesi aşağıdakilerden hangisidir?

- A) $\{7\}$ B) $\{-5\}$ C) $\{-5, 7\}$
D) $\{-5, -7\}$ E) $\{5, 7\}$

13- 6 kız, 4 erkek öğrenci arasından en az ikisi erkek olan 4 kişilik kaç grup oluşturulabilir?

A)90 B) 114 **C) 115** D) 175 E) 185

14- $f: \mathbb{R}/\{0\} \rightarrow (0,1)/\{\frac{1}{3}\}$, $f(x) = \frac{1}{2+5^x}$,

$\lim_{x \rightarrow 0^-} f(x) = ?$

A) 0 B) $\frac{1}{3}$ **C) $\frac{1}{2}$** D) 1 E) $\frac{3}{2}$

15- Toplamları 45 olan iki sayıdan biri ile diğerinin karesinin çarpımı maksimum olduğuna göre bu sayılardan büyük olan kaçtır?

A)25 **B) 30** C) 35 D) 40 E) 45

16- $f: \mathbb{R} \rightarrow \mathbb{R}$, $f(x) = x^3 - 6mx^2 - 13$ fonksiyonunun yerel ekstremum değerlerinden birisi 7 ise $m = ?$

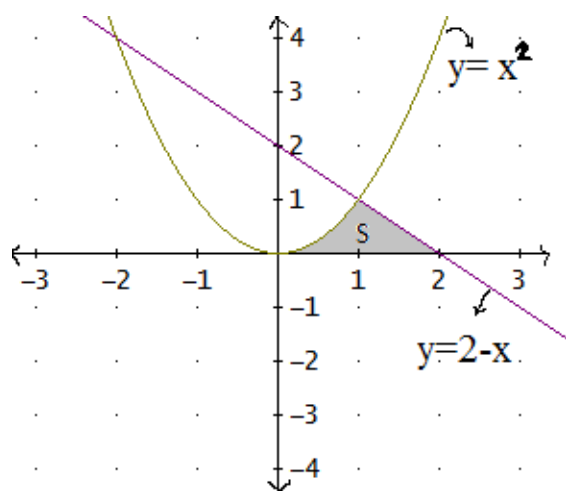
A) $\frac{1}{2}$ B) $\frac{2}{3}$ C) $\frac{3}{4}$ D) $\frac{5}{6}$ E) 1

17- $\int_e^{e^2} \ln x \, dx = e^2,$

$\int_e^{e^2} \ln^2 x \, dx = ?$

- A) $2e^2$ **B) $2e^2 - e$** C) e^4
 D) $e^4 - e$ E) 1

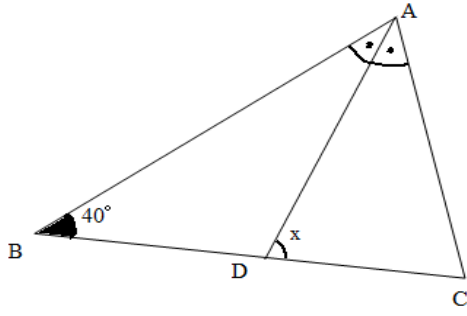
18-



$S = ?$

- A) $\frac{1}{6}br^2$ B) $\frac{1}{5}br^2$ C) $\frac{1}{2}br^2$ **D) $\frac{5}{6}br^2$** E) $1br^2$

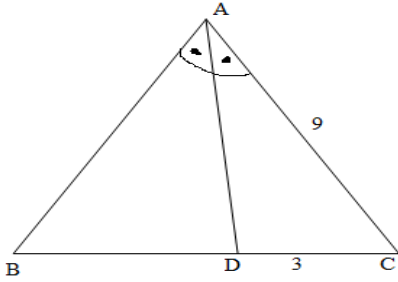
19-



ABC ikizkenar üçgen, $[AD]$ açıortay, $|AB| = |BC|$, $m(\widehat{ABC}) = 40^\circ$ ise $m(\widehat{ADC}) = x = ?$

- A) 75° B) 80° C) 90°
D) 95° E) 105°

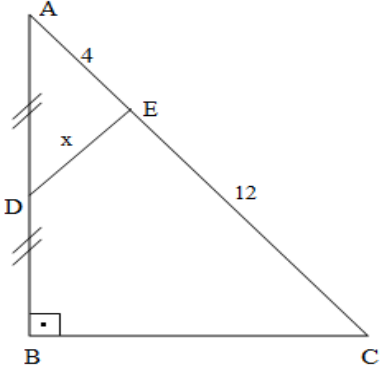
20-



ABC üçgen, $[AD]$ açıortay, $|AC| = 9$, $|DC| = 3$ ve $|AB| + |BC| + |AC| = 28$ cm ise $|BD| = x = ?$

- A) $\frac{4}{3}$ cm B) 3 cm C) 4 cm D) 6 cm E) 12 cm

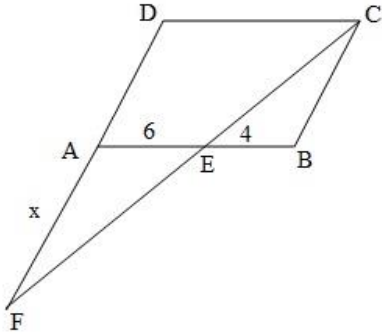
21-



ABC dik üçgen, $AB \perp BC$, $|AD| = |DB|$, $|AE| = 4$ cm, $|EC| = 12$ cm ise $|DE| = x = ?$

A) 3 cm (B) 4 cm C) 5 cm D) 6 cm E) 8 cm

22-



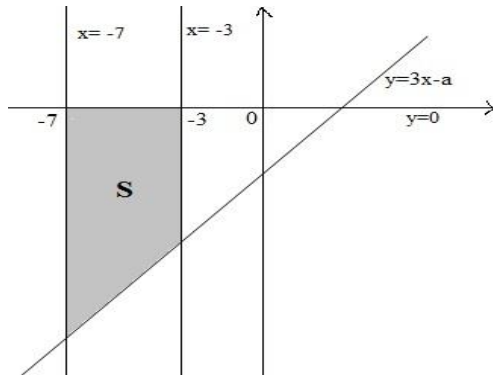
$ABCD$ eşkenar dörtgen, DFC üçgen, $|AE| = 6$ cm, $|EB| = 4$ cm ise $|AF| = x = ?$

A) 9 cm B) 10 cm C) 14 cm (D) 15 cm E) 16 cm

23- $A(1, -2)$, $B(7, 1)$, $C(x, 2)$ noktaları doğrusal olduklarına göre $x = ?$

(A) 9 B) $\frac{15}{2}$ C) $\frac{3}{2}$ D) $\frac{-3}{2}$ E) -9

24-



$a \in \mathbb{R}^+$ ve $S = 84br^2$ ise $a = ?$

- A) 3 **B) 6** C) 9 D) 12 E) 15

25-

$A = \begin{bmatrix} -2 & 0 \\ 2 & 2 \end{bmatrix}$ ise $A^{50} = ?$

- A) $2 \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$ B) $2^2 \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$
C) $2^{25} \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$ **D) $2^{50} \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$**
E) $2^{100} \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$