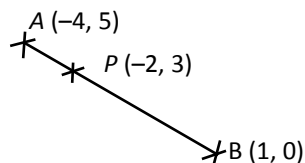


Coordinate Geometry
Multiple Choice Question

1. [14-15 Standardized Test #4]

In the figure, find $AP : PB$.

- A. 1 : 3
- B. 2 : 3
- C. 3 : 1
- D. 3 : 2



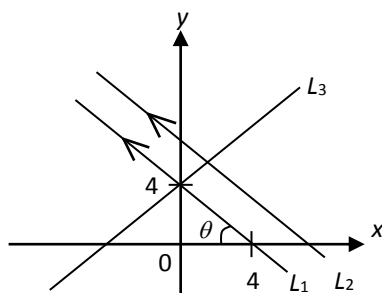
2. [14-15 Standardized Test #8]

$P\left(\frac{7}{2}, -\frac{1}{2}\right)$ is the mid-point of the line segment joining $A(a + b, -2)$ and $B(a, b - a)$. Which of the following statements are true?

- I. $b = 3$
 - II. $B = (2, 1)$
 - III. $AP : AB = 1 : 2$
- A. I and II only
 - B. I and III only
 - C. II and III only
 - D. I, II and III

3. [14-15 Standardized Test #9]

In the figure below, which of the following statements must be true?



- I. $\tan \theta = 1$
 - II. Slope of $L_3 >$ Slope of L_2
 - III. The inclination of L_2 is 45° .
- A. I and II only
 - B. I and III only
 - C. II and III only
 - D. I, II and III

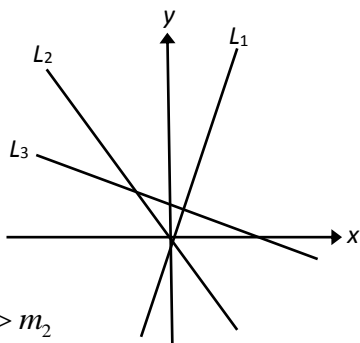
4. [14-15 Final Exam #16]

It is given that the distance between $A(5, -6)$ and $B(2, a)$ is 5 units. Which of the following is a possible value of a ?

- A. -21
- B. -2
- C. 2
- D. 8

5. [14-15 Final Exam #17]

In the figure, the slopes of straight lines L_1 , L_2 and L_3 are m_1 , m_2 and m_3 respectively. Which of the following must be correct?



- I. $m_1 > m_2$
 - II. Inclination of $L_1 >$ Inclination of L_3
 - III. $m_3 > m_2$
- A. I and II only B. I and III only
 C. II and III only D. I, II and III

6. [14-15 Final Exam #28]

Let O be the origin. The coordinates of P and Q are $(5, 10)$ and $(9, 8)$ respectively. Then the y -coordinate of the orthocentre of $\triangle OPQ$ is

- A. 5. B. 7.
 C. 9. D. 10.

7. [15-16 Standardized Test #5]

It is given that the coordinates of A are $(-4, 3)$. B is a point on the y -axis such that $\angle OAB = 90^\circ$, where O is the origin. Find the coordinates of B .

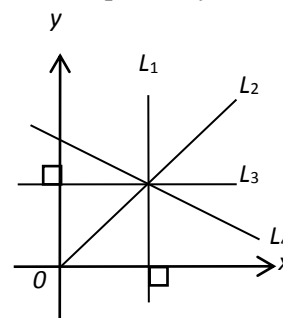
- A. $(0, 5)$ B. $\left(-\frac{25}{4}, 0\right)$
 C. $\left(0, \frac{4}{3}\right)$ D. $\left(0, \frac{25}{3}\right)$

8. [15-16 Standardized Test #9]

In the figure, the slopes of straight lines L_1 , L_2 , L_3 and L_4 are m_1 , m_2 , m_3 and m_4 respectively. Which of the following must be correct?

- I. $m_3 < m_4$
- II. $m_1 \times m_3 = -1$
- III. Inclination of $L_4 >$ Inclination of L_2

- A. III only
 B. I and II only
 C. II and III only
 D. I, II and III



9. [15-16 Final Exam #8]

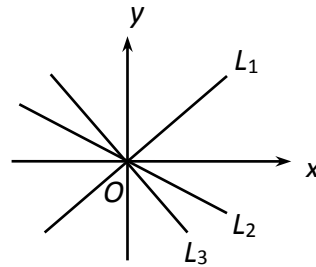
There are three points $A(-1, -2)$, $B(3, 0)$ and $C(9, 3)$. Find $AB : BC$.

- A. 1 : 2 B. 2 : 3
C. 2 : 5 D. 3 : 2

10. [15-16 Final Exam #25]

In the figure, the slopes of straight lines L_1 , L_2 and L_3 are m_1 , m_2 and m_3 respectively. Which of the following is correct?

- A. $m_3 < m_2 < m_1$
B. $m_3 < m_1 < m_2$
C. $m_2 < m_3 < m_1$
D. $m_1 < m_2 < m_3$



11. [15-16 Final Exam #27]

L_1 and L_2 are straight lines on a coordinate plane. L_2 passes through the origin and $(-4, 2)$. If $L_1 \perp L_2$, find the inclination of L_1 .

- A. 26.6° B. 45°
C. 63.4° D. 116°

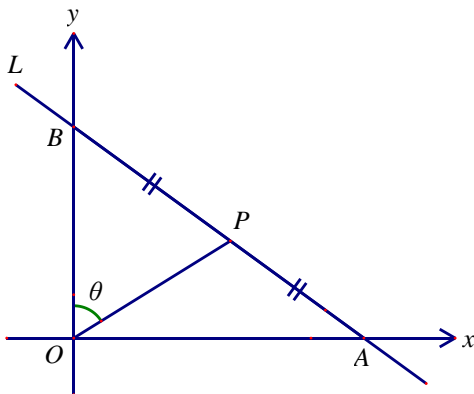
12. [16-17 Standardized Test #5]

The coordinates of the points A and B are $(2, 1)$ and $(8, 5)$ respectively. If $C(c, 0)$ is a point lying on the x -axis such that $AC = BC$, then $c =$

- A. 3. B. 5.
C. 6. D. 7.

13. [16-17 Standardized Test #10]

In the figure, L cuts the x -axis and the y -axis at A and B respectively and its slope is -2 . P is the midpoint of AB . Find θ .



- A. 63.4°
B. 53.1°
C. 31.7°
D. 26.6°

14. [16-17 Final Exam #16]

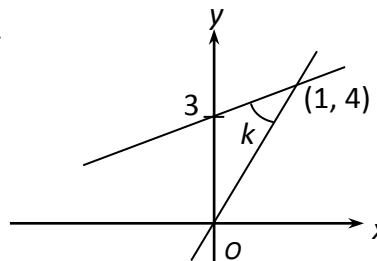
If $A(-1, 2k+8)$, $B(2, 3k+7)$ and $C(11, -2)$ are collinear, find the value of k .

- A. -7
- B. -1
- C. 1
- D. 7

15. [16-17 Final Exam #17]

In the figure, find k correct to 3 significant figures.

- A. 31.0°
- B. 45.0°
- C. 46.0°
- D. 76.0°



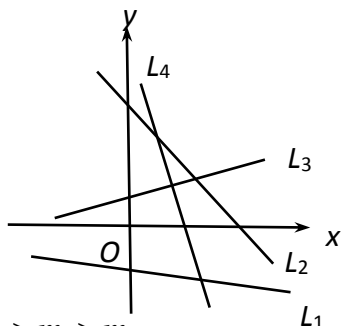
16. [17-18 S Test 2 #4]

$A(-2, 3)$, $B(4, 6)$ and $C(6, 7)$ are collinear. Find $AB : BC$.

- A. 1 : 3
- B. 2 : 3
- C. 3 : 1
- D. 3 : 2

17. [17-18 S Test 2 #5]

In the figure, the slopes of the straight lines L_1, L_2, L_3 and L_4 are m_1, m_2, m_3 and m_4 respectively. Arrange m_1, m_2, m_3 and m_4 in descending order.



- A. $m_4 > m_2 > m_1 > m_3$
- B. $m_3 > m_4 > m_2 > m_1$
- C. $m_3 > m_2 > m_1 > m_4$
- D. $m_3 > m_1 > m_2 > m_4$

18. [17-18 Final Exam #7]

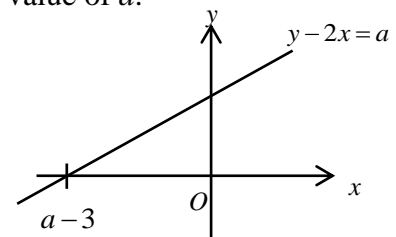
The points $A(-8, 1)$, $B(m, 2)$ and $C(4, 5)$ are collinear. Find the value of m .

- A. -5
- B. $-\frac{1}{3}$
- C. $-\frac{1}{5}$
- D. 5

19. [17-18 F.2 Final Exam #14]

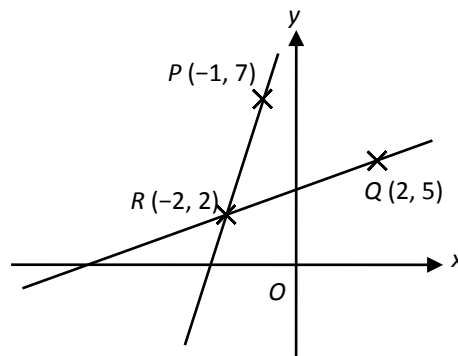
The figure shows the graph of the equation $y - 2x = a$. Find the value of a .

- A. 2.
- B. 1.
- C. 0.
- D. -1.



20. [17-18 Final Exam #17]

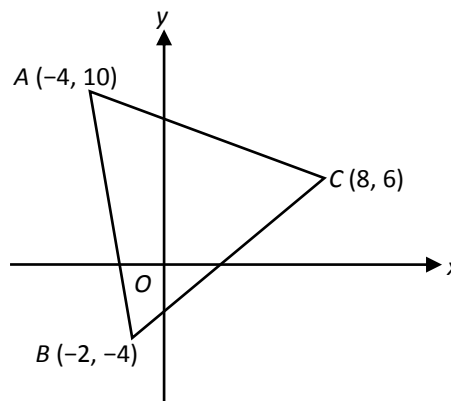
In the figure, a straight line passing through $P(-1, 7)$ intersects another straight line passing through $Q(2, 5)$ at $R(-2, 2)$. Find $\angle PRQ$ correct to 3 significant figures.



- A. 22.2°
- B. 25.6°
- C. 41.8°
- D. 64.4°

21. [17-18 Final Exam #18]

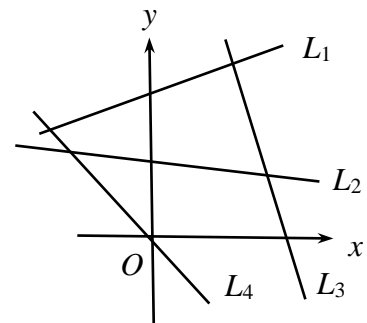
In the figure, $\triangle ABC$ is an isosceles triangle. Find the area of $\triangle ABC$.



- A. $\frac{\sqrt{150}}{2}$ sq. units
- B. $10\sqrt{65}$ sq. units
- C. $40\sqrt{5}$ sq. units
- D. 80 sq. units

22. [18-19 S Test 2 #6]

In the figure, the slopes of the straight lines L_1 , L_2 , L_3 and L_4 are m_1 , m_2 , m_3 and m_4 respectively. Arrange m_1 , m_2 , m_3 and m_4 in ascending order.



- A. $m_4 < m_3 < m_1 < m_2$
- B. $m_3 < m_4 < m_2 < m_1$
- C. $m_4 < m_3 < m_2 < m_1$
- D. $m_3 < m_4 < m_1 < m_2$

23. [18-19 Final Exam #9]

The points $A(-5, -2)$, $B(2, b)$ and $C(9, -6)$ are collinear. Find the value of b .

- A. -4
- B. $-\frac{1}{4}$
- C. $\frac{1}{4}$
- D. 4

24. [18-19 Final Exam #24]

$(-2, 0)$, $(0, 6)$ and $(2, 0)$ are the vertices of a triangle. Find the coordinates of the centroid of the triangle.

- A. $(0, 2)$
- B. $(0, 4)$
- C. $(2, 0)$
- D. $(4, 0)$