(Total mark is 2 points) Variant 1

Task 1. Coordinates of apexes of the triangle ABC are given as: $A(1,2)$, $B(4,-2)$ and $C(-5,-6)$.

Find:

1) the length of the side BC (as the module of the vector $\overrightarrow{BC}$);

2) the equation of the side BC (as the equation of the straight line passing thought points B and C);

3) coordinates of the point M (as the midpoint of the segment BC);

4) the length of the altitude AH (as the distance from A to the straight line BC);

5) the area ΔABC as $S = \frac{1}{2} AH \cdot BC$;

6) the equation of the straight line passing through point A and parallel to BC;

7) the equation of the straight line passing through point A and perpendicular to BC.

(Total mark is 2 points) Variant 2

Task 1. Coordinates of apexes of the triangle ABC are given as: $A(1,-1)$, $B(-2,11)$ and $C(9,7)$**.**

Find:

1) the length of the side BC (as the module of the vector $\overrightarrow{BC}$);

2) the equation of the side BC (as the equation of the straight line passing thought points B and C);

3) coordinates of the point M (as the midpoint of the segment BC);

4) the length of the altitude AH (as the distance from A to the straight line BC);

5) the area ΔABC as $S = \frac{1}{2} AH \cdot BC$;

6) the equation of the straight line passing through point A and parallel to BC;

7) the equation of the straight line passing through point A and perpendicular to BC.

(Total mark is 2 points) Variant 3

Task 1. Coordinates of apexes of the triangle ABC are given as: $A(-3,1)$, $B(1,4)$ and $C(2,-11)$**.**

Find:

1) the length of the side BC (as the module of the vector $\overrightarrow{BC}$);

2) the equation of the side BC (as the equation of the straight line passing thought points B and C);

3) coordinates of the point M (as the midpoint of the segment BC);

4) the length of the altitude AH (as the distance from A to the straight line BC);

5) the area ΔABC as $S = \frac{1}{2} AH \cdot BC$;

6) the equation of the straight line passing through point A and parallel to BC;

7) the equation of the straight line passing through point A and perpendicular to BC.

(Total mark is 2 points) Variant 4

Task 1. Coordinates of apexes of the triangle ABC are given as: $A(0,-5)$, $B(5,7)$ and $C(3,-9)$**.**

Find:

1) the length of the side BC (as the module of the vector $\overrightarrow{BC}$);

2) the equation of the side BC (as the equation of the straight line passing thought points B and C);

3) coordinates of the point M (as the midpoint of the segment BC);

4) the length of the altitude AH (as the distance from A to the straight line BC);

5) the area ΔABC as $S = \frac{1}{2} AH \cdot BC$;

6) the equation of the straight line passing through point A and parallel to BC;

7) the equation of the straight line passing through point A and perpendicular to BC.

(Total mark is 2 points) Variant 5

Task 1. Coordinates of apexes of the triangle ABC are given as: $A(1,1)$, $B(4,5)$ and $C(5,-2)$**.**

Find:

1) the length of the side BC (as the module of the vector $\overrightarrow{BC}$);

2) the equation of the side BC (as the equation of the straight line passing thought points B and C);

3) coordinates of the point M (as the midpoint of the segment BC);

4) the length of the altitude AH (as the distance from A to the straight line BC);

5) the area ΔABC as $S = \frac{1}{2} AH \cdot BC$;

6) the equation of the straight line passing through point A and parallel to BC;

7) the equation of the straight line passing through point A and perpendicular to BC.

(Total mark is 2 points) Variant 6

Task 1. Coordinates of apexes of the triangle ABC are given as: $A(1,4)$, $B(-3,7)$ and $C(-7,-2)$**.**

Find:

1) the length of the side BC (as the module of the vector $\overrightarrow{BC}$);

2) the equation of the side BC (as the equation of the straight line passing thought points B and C);

3) coordinates of the point M (as the midpoint of the segment BC);

4) the length of the altitude AH (as the distance from A to the straight line BC);

5) the area ΔABC as $S = \frac{1}{2} AH \cdot BC$;

6) the equation of the straight line passing through point A and parallel to BC;

7) the equation of the straight line passing through point A and perpendicular to BC.

(Total mark is 2 points) Variant 7

Task 1. Coordinates of apexes of the triangle ABC are given as: $A(-6,5)$, $B(6,0)$ and $C(2,11)$**.**

Find:

1) the length of the side BC (as the module of the vector $\overrightarrow{BC}$);

2) the equation of the side BC (as the equation of the straight line passing thought points B and C);

3) coordinates of the point M (as the midpoint of the segment BC);

4) the length of the altitude AH (as the distance from A to the straight line BC);

5) the area ΔABC as $S = \frac{1}{2} AH \cdot BC$;

6) the equation of the straight line passing through point A and parallel to BC;

7) the equation of the straight line passing through point A and perpendicular to BC.

(Total mark is 2 points) Variant 8

Task 1. Coordinates of apexes of the triangle ABC are given as: $A(-1,1); B(-2,2); C(2,-1)$**.**

Find:

1) the length of the side BC (as the module of the vector $\overrightarrow{BC}$);

2) the equation of the side BC (as the equation of the straight line passing thought points B and C);

3) coordinates of the point M (as the midpoint of the segment BC);

4) the length of the altitude AH (as the distance from A to the straight line BC);

5) the area ΔABC as $S = \frac{1}{2} AH \cdot BC$;

6) the equation of the straight line passing through point A and parallel to BC;

7) the equation of the straight line passing through point A and perpendicular to BC.

(Total mark is 2 points) Variant 9

Task 1. Coordinates of apexes of the triangle ABC are given as: $A(1, 2); B(2, -1); C(-1, 1)$**.**

Find:

1) the length of the side BC (as the module of the vector $\overrightarrow{BC}$);

2) the equation of the side BC (as the equation of the straight line passing thought points B and C);

3) coordinates of the point M (as the midpoint of the segment BC);

4) the length of the altitude AH (as the distance from A to the straight line BC);

5) the area ΔABC as $S = \frac{1}{2} AH \cdot BC$;

6) the equation of the straight line passing through point A and parallel to BC;

7) the equation of the straight line passing through point A and perpendicular to BC.

(Total mark is 2 points) Variant 10

Task 1. Coordinates of apexes of the triangle ABC are given as: $A(-1,-2); B(-2,1); C(1,-1)$**.**

Find:

1) the length of the side BC (as the module of the vector $\overrightarrow{BC}$);

2) the equation of the side BC (as the equation of the straight line passing thought points B and C);

3) coordinates of the point M (as the midpoint of the segment BC);

4) the length of the altitude AH (as the distance from A to the straight line BC);

5) the area ΔABC as $S = \frac{1}{2} AH \cdot BC$;

6) the equation of the straight line passing through point A and parallel to BC;

7) the equation of the straight line passing through point A and perpendicular to BC.

(Total mark is 2 points) Variant 11

Task 1. Coordinates of apexes of the triangle ABC are given as: $A(1,2)$, $B(4,-2)$ and $C(-5,-6)$**.**

Find:

1) the length of the side BC (as the module of the vector $\overrightarrow{BC}$);

2) the equation of the side BC (as the equation of the straight line passing thought points B and C);

3) coordinates of the point M (as the midpoint of the segment BC);

4) the length of the altitude AH (as the distance from A to the straight line BC);

5) the area ΔABC as $S = \frac{1}{2} AH \cdot BC$;

6) the equation of the straight line passing through point A and parallel to BC;

7) the equation of the straight line passing through point A and perpendicular to BC.

(Total mark is 2 points) Variant 12

Task 1. Coordinates of apexes of the triangle ABC are given as: $A(1,-1)$, $B(-2,11)$ and $C(9,7)$**.**

Find:

1) the length of the side BC (as the module of the vector $\overrightarrow{BC}$);

2) the equation of the side BC (as the equation of the straight line passing thought points B and C);

3) coordinates of the point M (as the midpoint of the segment BC);

4) the length of the altitude AH (as the distance from A to the straight line BC);

5) the area ΔABC as $S = \frac{1}{2} AH \cdot BC$;

6) the equation of the straight line passing through point A and parallel to BC;

7) the equation of the straight line passing through point A and perpendicular to BC.

(Total mark is 2 points) Variant 13

Task 1. Coordinates of apexes of the triangle ABC are given as: $A(-3,1)$, $B(1,4)$ and $C(2,-11)$**.**

Find:

1) the length of the side BC (as the module of the vector $\overrightarrow{BC}$);

2) the equation of the side BC (as the equation of the straight line passing thought points B and C);

3) coordinates of the point M (as the midpoint of the segment BC);

4) the length of the altitude AH (as the distance from A to the straight line BC);

5) the area ΔABC as $S = \frac{1}{2} AH \cdot BC$;

6) the equation of the straight line passing through point A and parallel to BC;

7) the equation of the straight line passing through point A and perpendicular to BC.

(Total mark is 2 points) Variant 14

Task 1. Coordinates of apexes of the triangle ABC are given as: $A(0,-5)$, $B(5,7)$ and $C(3,-9)$**.**

Find:

1) the length of the side BC (as the module of the vector $\overrightarrow{BC}$);

2) the equation of the side BC (as the equation of the straight line passing thought points B and C);

3) coordinates of the point M (as the midpoint of the segment BC);

4) the length of the altitude AH (as the distance from A to the straight line BC);

5) the area ΔABC as $S = \frac{1}{2} AH \cdot BC$;

6) the equation of the straight line passing through point A and parallel to BC;

7) the equation of the straight line passing through point A and perpendicular to BC.

(Total mark is 2 points) Variant 15

Task 1. Coordinates of apexes of the triangle ABC are given as: $A(1,1)$, $B(4,5)$ and $C(5,-2)$**.**

Find:

1) the length of the side BC (as the module of the vector $\overrightarrow{BC}$);

2) the equation of the side BC (as the equation of the straight line passing thought points B and C);

3) coordinates of the point M (as the midpoint of the segment BC);

4) the length of the altitude AH (as the distance from A to the straight line BC);

5) the area ΔABC as $S = \frac{1}{2} AH \cdot BC$;

6) the equation of the straight line passing through point A and parallel to BC;

7) the equation of the straight line passing through point A and perpendicular to BC.

(Total mark is 2 points) Variant 16

Task 1. Coordinates of apexes of the triangle ABC are given as: $A(1,4)$, $B(-3,7)$ and $C(-7,-2)$**.**

Find:

1) the length of the side BC (as the module of the vector $\overrightarrow{BC}$);

2) the equation of the side BC (as the equation of the straight line passing thought points B and C);

3) coordinates of the point M (as the midpoint of the segment BC);

4) the length of the altitude AH (as the distance from A to the straight line BC);

5) the area ΔABC as $S = \frac{1}{2} AH \cdot BC$;

6) the equation of the straight line passing through point A and parallel to BC;

7) the equation of the straight line passing through point A and perpendicular to BC.

(Total mark is 2 points) Variant 17

Task 1. Coordinates of apexes of the triangle ABC are given as: $A(-6,5)$, $B(6,0)$ and $C(2,11)$**.**

Find:

1) the length of the side BC (as the module of the vector $\overrightarrow{BC}$);

2) the equation of the side BC (as the equation of the straight line passing thought points B and C);

3) coordinates of the point M (as the midpoint of the segment BC);

4) the length of the altitude AH (as the distance from A to the straight line BC);

5) the area ΔABC as $S = \frac{1}{2} AH \cdot BC$;

6) the equation of the straight line passing through point A and parallel to BC;

7) the equation of the straight line passing through point A and perpendicular to BC.

(Total mark is 2 points) Variant 18

Task 1. Coordinates of apexes of the triangle ABC are given as: $A(-1,1); B(-2,2); C(2,-1)$**.**

Find:

1) the length of the side BC (as the module of the vector $\overrightarrow{BC}$);

2) the equation of the side BC (as the equation of the straight line passing thought points B and C);

3) coordinates of the point M (as the midpoint of the segment BC);

4) the length of the altitude AH (as the distance from A to the straight line BC);

5) the area ΔABC as $S = \frac{1}{2} AH \cdot BC$;

6) the equation of the straight line passing through point A and parallel to BC;

7) the equation of the straight line passing through point A and perpendicular to BC.

(Total mark is 2 points) Variant 19

Task 1. Coordinates of apexes of the triangle ABC are given as: $A(1, 2); B(2, -1); C(-1, 1)$**.**

Find:

1) the length of the side BC (as the module of the vector $\overrightarrow{BC}$);

2) the equation of the side BC (as the equation of the straight line passing thought points B and C);

3) coordinates of the point M (as the midpoint of the segment BC);

4) the length of the altitude AH (as the distance from A to the straight line BC);

5) the area ΔABC as $S = \frac{1}{2} AH \cdot BC$;

6) the equation of the straight line passing through point A and parallel to BC;

7) the equation of the straight line passing through point A and perpendicular to BC.

(Total mark is 2 points) Variant 20

Task 1. Coordinates of apexes of the triangle ABC are given as: $A(-1,-2); B(-2,1); C(1,-1)$**.**

Find:

1) the length of the side BC (as the module of the vector $\overrightarrow{BC}$);

2) the equation of the side BC (as the equation of the straight line passing thought points B and C);

3) coordinates of the point M (as the midpoint of the segment BC);

4) the length of the altitude AH (as the distance from A to the straight line BC);

5) the area ΔABC as $S = \frac{1}{2} AH \cdot BC$;

6) the equation of the straight line passing through point A and parallel to BC;

7) the equation of the straight line passing through point A and perpendicular to BC.

(Total mark is 2 points) Variant 21

Task 1. Coordinates of apexes of the triangle ABC are given as: $A(1,2)$, $B(4,-2)$ and $C(-5,-6)$**.**

Find:

1) the length of the side BC (as the module of the vector $\overrightarrow{BC}$);

2) the equation of the side BC (as the equation of the straight line passing thought points B and C);

3) coordinates of the point M (as the midpoint of the segment BC);

4) the length of the altitude AH (as the distance from A to the straight line BC);

5) the area ΔABC as $S = \frac{1}{2} AH \cdot BC$;

6) the equation of the straight line passing through point A and parallel to BC;

7) the equation of the straight line passing through point A and perpendicular to BC.

(Total mark is 2 points) Variant 22

Task 1. Coordinates of apexes of the triangle ABC are given as: $A(1,-1)$, $B(-2,11)$ and $C(9,7)$**.**

Find:

1) the length of the side BC (as the module of the vector $\overrightarrow{BC}$);

2) the equation of the side BC (as the equation of the straight line passing thought points B and C);

3) coordinates of the point M (as the midpoint of the segment BC);

4) the length of the altitude AH (as the distance from A to the straight line BC);

5) the area ΔABC as $S = \frac{1}{2} AH \cdot BC$;

6) the equation of the straight line passing through point A and parallel to BC;

7) the equation of the straight line passing through point A and perpendicular to BC.

(Total mark is 2 points) Variant 23

Task 1. Coordinates of apexes of the triangle ABC are given as: $A(-3,1)$, $B(1,4)$ and $C(2,-11)$**.**

Find:

1) the length of the side BC (as the module of the vector $\overrightarrow{BC}$);

2) the equation of the side BC (as the equation of the straight line passing thought points B and C);

3) coordinates of the point M (as the midpoint of the segment BC);

4) the length of the altitude AH (as the distance from A to the straight line BC);

5) the area ΔABC as $S = \frac{1}{2} AH \cdot BC$;

6) the equation of the straight line passing through point A and parallel to BC;

7) the equation of the straight line passing through point A and perpendicular to BC.

(Total mark is 2 points) Variant 24

Task 1. Coordinates of apexes of the triangle ABC are given as: $A(0,-5)$, $B(5,7)$ and $C(3,-9)$**.**

Find:

1) the length of the side BC (as the module of the vector $\overrightarrow{BC}$);

2) the equation of the side BC (as the equation of the straight line passing thought points B and C);

3) coordinates of the point M (as the midpoint of the segment BC);

4) the length of the altitude AH (as the distance from A to the straight line BC);

5) the area ΔABC as $S = \frac{1}{2} AH \cdot BC$;

6) the equation of the straight line passing through point A and parallel to BC;

7) the equation of the straight line passing through point A and perpendicular to BC.

(Total mark is 2 points) Variant 25

Task 1. Coordinates of apexes of the triangle ABC are given as: $A(1,1)$, $B(4,5)$ and $C(5,-2)$**.**

Find:

1) the length of the side BC (as the module of the vector $\overrightarrow{BC}$);

2) the equation of the side BC (as the equation of the straight line passing thought points B and C);

3) coordinates of the point M (as the midpoint of the segment BC);

4) the length of the altitude AH (as the distance from A to the straight line BC);

5) the area ΔABC as $S = \frac{1}{2} AH \cdot BC$;

6) the equation of the straight line passing through point A and parallel to BC;

7) the equation of the straight line passing through point A and perpendicular to BC.

(Total mark is 2 points) Variant 26

Task 1. Coordinates of apexes of the triangle ABC are given as: $A(1,4)$, $B(-3,7)$ and $C(-7,-2)$**.**

Find:

1) the length of the side BC (as the module of the vector $\overrightarrow{BC}$);

2) the equation of the side BC (as the equation of the straight line passing thought points B and C);

3) coordinates of the point M (as the midpoint of the segment BC);

4) the length of the altitude AH (as the distance from A to the straight line BC);

5) the area ΔABC as $S = \frac{1}{2} AH \cdot BC$;

6) the equation of the straight line passing through point A and parallel to BC;

7) the equation of the straight line passing through point A and perpendicular to BC.

(Total mark is 2 points) Variant 27

Task 1. Coordinates of apexes of the triangle ABC are given as: $A(-6,5)$, $B(6,0)$ and $C(2,11)$**.**

Find:

1) the length of the side BC (as the module of the vector $\overrightarrow{BC}$);

2) the equation of the side BC (as the equation of the straight line passing thought points B and C);

3) coordinates of the point M (as the midpoint of the segment BC);

4) the length of the altitude AH (as the distance from A to the straight line BC);

5) the area ΔABC as $S = \frac{1}{2} AH \cdot BC$;

6) the equation of the straight line passing through point A and parallel to BC;

7) the equation of the straight line passing through point A and perpendicular to BC.

(Total mark is 2 points) Variant 28

Task 1. Coordinates of apexes of the triangle ABC are given as: $A(-1,1); B(-2,2); C(2,-1)$**.**

Find:

1) the length of the side BC (as the module of the vector $\overrightarrow{BC}$);

2) the equation of the side BC (as the equation of the straight line passing thought points B and C);

3) coordinates of the point M (as the midpoint of the segment BC);

4) the length of the altitude AH (as the distance from A to the straight line BC);

5) the area ΔABC as $S = \frac{1}{2} AH \cdot BC$;

6) the equation of the straight line passing through point A and parallel to BC;

7) the equation of the straight line passing through point A and perpendicular to BC.

(Total mark is 2 points) Variant 29

Task 1. Coordinates of apexes of the triangle ABC are given as: $A(1, 2); B(2, -1); C(-1, 1)$**.**

Find:

1) the length of the side BC (as the module of the vector $\overrightarrow{BC}$);

2) the equation of the side BC (as the equation of the straight line passing thought points B and C);

3) coordinates of the point M (as the midpoint of the segment BC);

4) the length of the altitude AH (as the distance from A to the straight line BC);

5) the area ΔABC as $S = \frac{1}{2} AH \cdot BC$;

6) the equation of the straight line passing through point A and parallel to BC;

7) the equation of the straight line passing through point A and perpendicular to BC.

(Total mark is 2 points) Variant 30

Task 1. Coordinates of apexes of the triangle ABC are given as: $A(-1,-2); B(-2,1); C(1,-1)$**.**

Find:

1) the length of the side BC (as the module of the vector $\overrightarrow{BC}$);

2) the equation of the side BC (as the equation of the straight line passing thought points B and C);

3) coordinates of the point M (as the midpoint of the segment BC);

4) the length of the altitude AH (as the distance from A to the straight line BC);

5) the area ΔABC as $S = \frac{1}{2} AH \cdot BC$;

6) the equation of the straight line passing through point A and parallel to BC;

7) the equation of the straight line passing through point A and perpendicular to BC.