



# AREA OF TRIANGLES

Name \_\_\_\_\_

Score \_\_\_\_\_

AT:47


Example : Find the area of triangle ABC whose vertices are A(5, 4), B(8, 4) and C(7, 8).

$$\begin{aligned} \text{Area} &= \frac{1}{2} [x_1(y_2 - y_3) + x_2(y_3 - y_1) + x_3(y_1 - y_2)] \\ &= \frac{1}{2} [5(4 - 8) + 8(8 - 4) + 7(4 - 4)] \\ &= \frac{1}{2} [5(-4) + 8(4) + 7(0)] \\ &= \frac{1}{2} [-20 + 32] = \frac{12}{2} = \mathbf{6 \text{ square units}} \end{aligned}$$

Use the vertices of each triangle to compute the area.

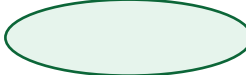
1)

P(-8, -3), Q(-3, 7) and R(-3, -3)

Area =  square units

2)

U(2, -3), V(6, -3) and W(4, -7)

Area =  square units

3)

X(3, 3), Y(10, 5) and Z(10, -5)

Area =  square units

4)

D(1, 2), E(4, 2) and F(3, 5)

Area =  square units


5)

M(-9, -5), N(-9, -10) and O(3, -10)

Area =  square units

6)

J(-8, 9), K(5, 5) and L(2, 9)

Area =  square units



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## Answer key

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Use the vertices of each triangle to compute the area.

1)

P(-8, -3), Q(-3, 7) and R(-3, -3)

Area = **25** square units

2)

U(2, -3), V(6, -3) and W(4, -7)

Area = **8** square units

3)

X(3, 3), Y(10, 5) and Z(10, -5)

Area = **35** square units

4)

D(1, 2), E(4, 2) and F(3, 5)

Area = **4.5** square units

5)

M(-9, -5), N(-9, -10) and O(3, -10)

Area = **30** square units

6)

J(-8, 9), K(5, 5) and L(2, 9)

Area = **20** square units