

Math Sheet

Name _____ Score _____ Teacher _____ Date _____

Centroid from Vertices

Find the centroid G of each triangle. Give exact coordinates as integers or simplified fractions.

1. $A(-11, -3), B(9, 16), C(2, -16)$

G = _____

2. $A(-17, 8), B(2, 11), C(-9, 13)$

G = _____

3. $A(-14, 12), B(-13, 17), C(-15, -8)$

G = _____

4. $A(5, 3), B(19, -18), C(-17, 7)$

G = _____

5. $A(15, 11), B(5, -20), C(-5, 0)$

G = _____

6. $A(18, -9), B(18, 4), C(7, -11)$

G = _____

7. $A(19, -7), B(9, -13), C(-13, 8)$

G = _____

8. $A(15, -11), B(9, 17), C(15, -7)$

G = _____

9. $A(-9, -17), B(-18, 0), C(9, -19)$

G = _____

10. $A(17, 13), B(-8, 10), C(-8, 20)$

G = _____

Centroid from Vertices

Worked Answer Key

Find the centroid G of each triangle. Give exact coordinates as integers or simplified fractions.

1.	A(-11, -3), B(9, 16), C(2, -16) Vertices: A(-11, -3), B(9, 16), C(2, -16).	$x_G = (-11 + 9 + 2) / 3 = 0 / 3 = 0.$	$y_G = (-3 + 16 + -16) / 3 = -3 / 3 = -1; \text{ therefore } G = (0, -1).$
2.	A(-17, 8), B(2, 11), C(-9, 13) Vertices: A(-17, 8), B(2, 11), C(-9, 13).	$x_G = (-17 + 2 + -9) / 3 = -24 / 3 = -8.$	$y_G = (8 + 11 + 13) / 3 = 32 / 3 = 32/3; \text{ therefore } G = (-8, 32/3).$
3.	A(-14, 12), B(-13, 17), C(-15, -8) Vertices: A(-14, 12), B(-13, 17), C(-15, -8).	$x_G = (-14 + -13 + -15) / 3 = -42 / 3 = -14.$	$y_G = (12 + 17 + -8) / 3 = 21 / 3 = 7; \text{ therefore } G = (-14, 7).$
4.	A(5, 3), B(19, -18), C(-17, 7) Vertices: A(5, 3), B(19, -18), C(-17, 7).	$x_G = (5 + 19 + -17) / 3 = 7 / 3 = 7/3.$	$y_G = (3 + -18 + 7) / 3 = -8 / 3 = -8/3; \text{ therefore } G = (7/3, -8/3).$
5.	A(15, 11), B(5, -20), C(-5, 0) Vertices: A(15, 11), B(5, -20), C(-5, 0).	$x_G = (15 + 5 + -5) / 3 = 15 / 3 = 5.$	$y_G = (11 + -20 + 0) / 3 = -9 / 3 = -3; \text{ therefore } G = (5, -3).$
6.	A(18, -9), B(18, 4), C(7, -11) Vertices: A(18, -9), B(18, 4), C(7, -11).	$x_G = (18 + 18 + 7) / 3 = 43 / 3 = 43/3.$	$y_G = (-9 + 4 + -11) / 3 = -16 / 3 = -16/3; \text{ therefore } G = (43/3, -16/3).$
7.	A(19, -7), B(9, -13), C(-13, 8) Vertices: A(19, -7), B(9, -13), C(-13, 8).	$x_G = (19 + 9 + -13) / 3 = 15 / 3 = 5.$	$y_G = (-7 + -13 + 8) / 3 = -12 / 3 = -4; \text{ therefore } G = (5, -4).$
8.	A(15, -11), B(9, 17), C(15, -7) Vertices: A(15, -11), B(9, 17), C(15, -7).	$x_G = (15 + 9 + 15) / 3 = 39 / 3 = 13.$	$y_G = (-11 + 17 + -7) / 3 = -1 / 3 = -1/3; \text{ therefore } G = (13, -1/3).$
9.	A(-9, -17), B(-18, 0), C(9, -19) Vertices: A(-9, -17), B(-18, 0), C(9, -19).	$x_G = (-9 + -18 + 9) / 3 = -18 / 3 = -6.$	$y_G = (-17 + 0 + -19) / 3 = -36 / 3 = -12; \text{ therefore } G = (-6, -12).$
10.	A(17, 13), B(-8, 10), C(-8, 20) Vertices: A(17, 13), B(-8, 10), C(-8, 20).	$x_G = (17 + -8 + -8) / 3 = 1 / 3 = 1/3.$	$y_G = (13 + 10 + 20) / 3 = 43 / 3 = 43/3; \text{ therefore } G = (1/3, 43/3).$