ework Help

| See |
:ses	Examples
6,	1
4	
2,	3
5	
2	2

Practice
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Find the distance between each pair of points whose coordinates are given. Express in simplest radical form and as decimal approximations rounded to the nearest hundredth if necessary.

13. $(12, 3), (-8, 3)$

14. $(0, 0), (5, 12)$

15. $(6, 8), (3, 4)$

16. $(-4, 2), (4, 17)$

17. $(-3, 8), (5, 4)$

18. $(9, -2), (3, -6)$

19. $(-8, -4), (-3, -8)$

20. $(2, 7), (10, -4)$

21. $(4, 2), \left(6, -\frac{2}{3}\right)$

22. $\left(5, \frac{1}{4}\right), (3, 4)$

23. $\left(\frac{4}{5}, -1\right), \left(2, -\frac{1}{2}\right)$

24. $\left(3, \frac{3}{7}\right), \left(4, -\frac{2}{7}\right)$

25. $\left(4\sqrt{5}, 7\right), \left(6\sqrt{5}, 1\right)$

26. $\left(5\sqrt{2}, 8\right), \left(7\sqrt{2}, 10\right)$

Find the possible values of a if the points with the given coordinates are the indicated distance apart.

27. $(4, 7), (a, 3); d = 5$

28. $(-4, a), (4, 2); d = 17$

29. $(5, a), (6, 1); d = \sqrt{10}$

30. $(a, 5), (-7, 3); d = \sqrt{29}$

31. $(6, -3), (-3, a); d = \sqrt{130}$

32. $(20, 5), (a, 9); d = \sqrt{340}$

33. Triangle ABC has vertices at $A(7, -4), B(-1, 2)$, and $C(5, -6)$. Determine whether the triangle has three, two, or no sides that are equal in length.

34. If the diagonals of a trapezoid have the same length, then the trapezoid is isosceles. Find the lengths of the diagonals of trapezoid $ABCD$ with vertices $A(-2, 2), B(10, 6), C(9, 8)$, and $D(0, 5)$ to determine if it is isosceles.

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35. Triangle *LMN* has vertices at $L(-4, -3)$, $M(2, 5)$, and $N(-13, 10)$. If the distance from point $P(x, -2)$ to L equals the distance from P to M, what is the value of x?

36. Plot the points $Q(1, 7)$, $R(3, 1)$, $S(9, 3)$, and $T(7, d)$. Find the value of d that makes each side of *QRST* have the same length.

37. FREQUENT FLYERS To determine the mileage between cities for their frequent flyer programs, some airlines superimpose a coordinate grid over the United States. An ordered pair on the grid represents the location of each airport. The units of this grid are approximately equal to 0.316 mile. So, a distance of 3 units on the grid equals an actual distance of 3(0.316) or 0.948 mile. Suppose the locations of two airports are at (132, 428) and (254, 105). Find the actual distance between these airports to the nearest mile.