

Warm Up 111

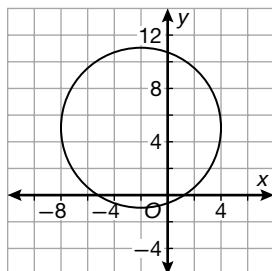
1. equidistant
2. $4\sqrt{5}$
3. $(3, 1)$

Lesson Practice 111

- a. $\sqrt{53}$
- b. $(18.5, 3, 7.5)$
- c. The skydivers are about 54.3 feet apart.

Practice 111

1. $(x + 2)^2 + (y - 5)^2 = 36$



2. $(3y, -2x)$

3. 90°

4. $(-7, 0, 9)$

5. $R = \frac{2}{3}h, r = \frac{1}{3}h$

6. 52 units

7. He is incorrect. The value $t = 3$ gives the point $(13, 18, 17)$, not $(13, 18, 16)$. This can be seen by solving for t and $t \neq 3$ for all three sets of coordinates.

8. the triangular-prism-shaped frame

9. $m = 4, n = \frac{2}{3}, p$ can be any real number

10. about 14.1 feet

11. $d = \sqrt{3};$
 $M = (-0.5, -0.5, 0.5)$

12. 46

13. $\begin{bmatrix} -4 & -4 & -4 & -4 \\ \frac{1}{2} & \frac{1}{2} & \frac{1}{2} & \frac{1}{2} \end{bmatrix}$

14. See student work; any two triangles that are similar by Side-Angle-Side Similarity

15. 1 cm : 35 μ m

16. $(x + 18) + 54 = 180;$
 $x = 108;$ If $x = 108$, then the two angles are supplementary same-side interior angles.

17. 24.27 and 0.11

18. 108 ounces

19. Since it is an isosceles trapezoid and has a right angle, the adjacent base angle is also a right angle. Then, by the Same-Side Interior Angles Theorem, the other two angles are also right angles. Hence, the quadrilateral is a rectangle.
20. The triangle is small because the equation $A = \frac{\pi r^2}{180^\circ}(m\angle A + m\angle B + m\angle C - 180^\circ)$ reduces to $A = \frac{\pi r^2}{180^\circ}$.
21. $x = 3\sqrt{7}$
22. 8575 cm^3
23. Sample: line: \overleftrightarrow{BD} ;
segment: \overline{AD} ; triangle:
 $\triangle ABD$
24. $7\sqrt{3}$
25. B
26. $s = \frac{2A}{na}$
27. 62 in^2
28. $P = 4\sqrt{A}$
29. $\triangle ABC \sim \triangle CBD$
 $\triangle ACD \sim \triangle CBD$
 $\triangle ABC \sim \triangle ACD$
30. Translation symmetries based on vectors from the center of one octagon to the center of any adjacent octagon; rotational symmetries based on rotations of 90° about center of any tile; reflection symmetries with lines of symmetry through centers of any two adjacent tiles.

