

Warm Up 5

1. coplanar
2. a line
3. D
4. two
5. three

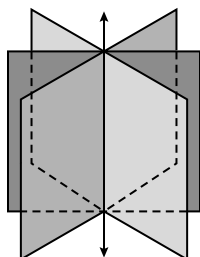
- f. If all adjacent boards are parallel to each other, then all the boards will be parallel to one another by the Transitive Property of Parallel Lines.

Lesson Practice 5

- a. $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}, \overleftrightarrow{CD} \parallel \overleftrightarrow{EF}$
- b. They are perpendicular.
- c. They are parallel.
- d. They are congruent right angles.
- e. The Parallel Postulate states that there is only one line through a point not on a line that is parallel to that line. Since $\overleftrightarrow{XY} \parallel \overleftrightarrow{CD}$ and passes through M , and \overleftrightarrow{JK} also passes through point M , it cannot also be parallel to \overleftrightarrow{CD} .

Practice 5

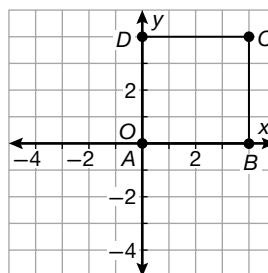
1.



2. Damon is incorrect as three noncollinear points determine a plane.
3. The three points are collinear, and an infinite number of planes contain them all. Three non-collinear points are needed to define a plane.
4. 6, 8, 10, or any multiple of 3, 4, 5, as well as values such as 5, 12, 13 and 7, 24, 25 and 8, 15, 17 and 9, 40, 41 and so on, as well as multiples of these triples; yes, there are an infinite number.
5. 180°

6. Only one line can be drawn that is perpendicular to the given line from the point, but two lines can be drawn that meet the given line at 45° , one on each side of the perpendicular.
7. 10,000; square the number of cm in $1 \text{ m} = (100)^2$
8. 0
9. Answers will vary. Sample: parallel \overline{DC} , perpendicular \overline{AD} and skew \overline{EH}
10. Symmetric Property of Equality

11.



The resulting shape is a square.

12. only one, since there is only one line through any two points
13. $f(1) = 6$, $f(-2) = 21$
and $f(a) = 3a^2 - 2a + 5$
14. B
15. Any three points define a plane (Postulate 9), so a tripod will always be steady. A stand with four or more legs could easily wobble on many surfaces.
16. \overleftrightarrow{UT} must be perpendicular to \overleftrightarrow{XY}
17. 2000 mL or 2 L
18. They are coplanar, since they are not on the same line.
19. $b = (d^3 - c^3 - a^3)^{\frac{1}{3}}$
20. $\frac{1}{2}$
21. Verify that AM is the same length as MB .
22. Yes, it makes a difference. If paid after the tax, the amount left as a tip would be higher than before the tax is added.
23. Only one line exists through any two points. The curved path does not represent a line.
24. They all have a negative value for x and a positive value for y .
25. They are congruent, because they both have a measure of 70° .
26. $h = \frac{2A}{b}$
27. The floor and ceiling are parallel.
28. acute: $m\angle A = 35^\circ$, $m\angle B = 25^\circ$; obtuse: $m\angle C = 45^\circ$, $m\angle D = 85^\circ$
29. 523.26 Hz
30. No, because \overleftrightarrow{DE} is not shown to be parallel to \overleftrightarrow{KL} .