

Answers for 2.3

For use with pages 90–93

2.3 Skill Practice

1. Detachment
2. *Sample answer:* The person in the center of the photo is wearing jeans.
3. *Sample answer:* The door to this room is closed.
4. $\angle A$ is a right angle.
5. $-15 < -12$
6. It is nonfiction.
7. If a rectangle has four equal side lengths, then it is a regular polygon.
8. If $y > 0$, then $2y - 5 \neq -5$.
9. If you play the clarinet, then you are a musician.
10. If $\frac{1}{2}a = 1\frac{1}{2}$, then $5a = 15$.
11. Sum is even; the sum of two even integers is even; $2n$ and $2m$ are even, $2n + 2m = 2(n + m)$, $2(n + m)$ is even.
12. B
13. Linear pairs are not the only pairs of angles that are supplementary.
Sample answer: Angles C and D are supplementary, so the sum of their measures is 180° .

14. a. $AB = CD = EF = \sqrt{13}$
 - b. If one endpoint is 2 units to the right and 3 units above the other endpoint, then the segment is congruent to the given segments. Use $J(1, 1)$ and $K(3, 4)$. Then $JK = \sqrt{13}$; use the Distance Formula.
 - c. One endpoint is (x, y) and the second is $(x + 2, y + 3)$. Using the Distance Formula the distance between the two points is $\sqrt{13}$.
 - d. \overline{MN} , correct, by the Distance Formula; \overline{PQ} , correct, by the Distance Formula; \overline{RS} , correct, by the Distance Formula.
15. Law of Syllogism does apply; the contrapositive of the statements are: if the creature is not a marsupial, then it is not a wombat; if the creature does not have a pouch, then it is not a marsupial; using the Law of Syllogism it can be stated that if the creature does not have a pouch, then it is not a wombat.

2.3 Problem Solving

16. ~~You can't buy a car.~~ *No conclus*
17. You will get a raise if the revenue is greater than its costs.

Answers for 2.3 *continued*

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18. may have

19. is

20. a. *Sample answer:* If Gypsum is scratched by Calcite, then a scratch mark is left on the Gypsum; if Talc is scratched by Calcite, then a scratch mark is left on the Talc; if Calcite is scratched by Fluorite, then a scratch mark is left on the Calcite.

b. Mineral *A* cannot be Fluorite since Mineral *B* can scratch it; Mineral *C* must be Talc since it is the softest of the minerals.

c. *Sample answer:* If Mineral *D* scratches Mineral *B* then *D* is the Fluorite, otherwise *B* is the Fluorite; if Mineral *B* is Fluorite, take Mineral *A* and Mineral *D* and do one scratch test to identify them.

21. Deductive; laws of logic were used to reach the conclusion.

22. Inductive; a pattern leads to the conclusion.

23. $2n + (2n + 1) = (2n + 2n) + 1 = 4n + 1$, which is odd.

24. For want of a nail the rider is lost; the hypothesis and conclusion are directly linked by the Law of Syllogism.

25. True; since the game is not sold out, Arlo goes and buys a hot dog.

26. True; Arlo and Mia go to the game since it is not sold out.

27. False; Mia will buy popcorn.

28. False; Arlo buys a hotdog.

29. a. It is true.

b. Since Bob lies, Charlie must be telling the truth but he isn't because Adam doesn't lie.

c. Bob; Adam, Charlie; there is no contradiction if Bob is telling the truth.

2.3 Mixed Review

30. *Sample answer:* \overleftrightarrow{CE} , \overleftrightarrow{AF}

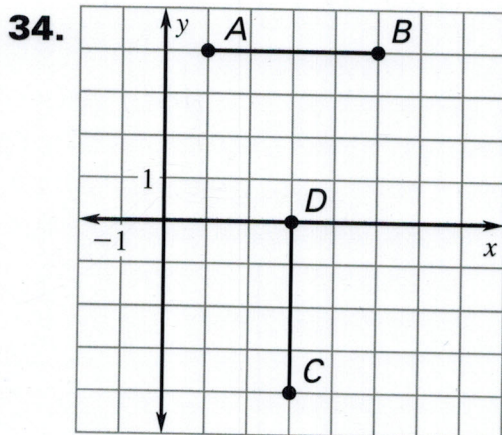
31. *Sample answer:* \overrightarrow{DF} , \overrightarrow{AF} , \overrightarrow{DC} , \overrightarrow{EC}

32. *Sample answer:* *C*, *D*, *E*

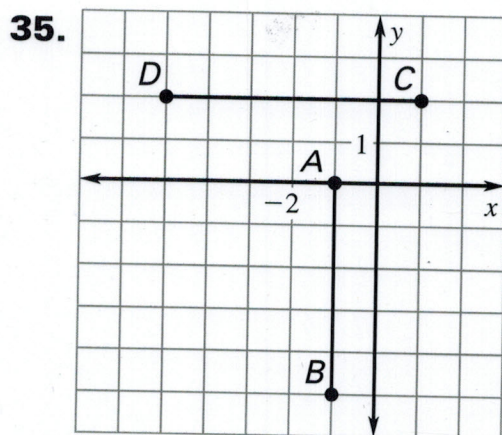
33. *Sample answer:* *B*, *C*, *D*, *E*

Answers for 2.3 continued

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congruent



not congruent

36. If $x = -2$, then $x^2 = 4$.

37. If an angle is acute, then its measure is less than 90° .

38. ~~If a person is a member, then~~
~~he/she can access the website!~~

If you can access the website then you are a member.

Quiz

#2 Sample answer:
 $8 + -7 = 1$

#3 If points lie on the same line, then they are collinear; if points are not collinear, then they don't lie on the same line.

#5 I will wear shorts.