

More Ch. 1 Practice (Answers)

BIG IDEAS pg. 59

1. 31

2. 12

3. $M(-2.5, -2)$; $AB = 3\sqrt{17}$
 $AB \approx 12.37$

4. $M(-4.5, 2)$; $CD = \sqrt{149}$
 $CD \approx 12.21$

5. $F(5, -4)$

6. false

7. true

8. false

9. false

10. perimeter $= 16 + 2\sqrt{10}$
 ≈ 22.32

11. perimeter $= 6 + 2\sqrt{34}$
 ≈ 17.66

12. Supplementary: $\angle AFB$ and $\angle BFE$ } form a linear pair
 $\angle AFD$ and $\angle DFE$ }
 $\angle AFC$ and $\angle CFE$ }

complementary: $\angle AFB$ and $\angle BFC$ } form a right angle
 $\angle CFD$ and $\angle DFE$ }

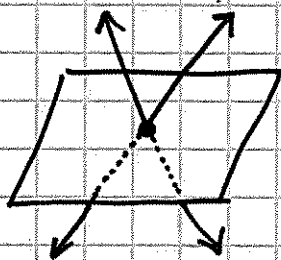
$m\angle DFE = 63^\circ$, $m\angle BFC = 51^\circ$, $m\angle BFE = 41^\circ$

13. a. 60°

b. 150°

c. 6:00

14.



16. The green ball is closer to the pallino because it is $\frac{1}{2}$ of 10 inches away, which is 5 inches, and $5 < 8$.

Chapter 1

BIG IDEAS pg. 60-61

Chapter 1 Standards Assessment (pp. 60-61)

1. $CD = MN = 12$; $EF = PQ = KL = 3$

So, $\overline{CD} \cong \overline{MN}$ and $\overline{EF} \cong \overline{PQ} \cong \overline{KL}$.

2. point, segment, ray, line, plane

3. B; $(-6, 13)$, $(11, 5)$

$$M(x, y) = \left(\frac{-6 + 11}{2}, \frac{13 + 5}{2} \right) = \left(\frac{5}{2}, \frac{18}{2} \right) = \left(\frac{5}{2}, 9 \right)$$

$$\begin{aligned} d &= \sqrt{(-6 - 11)^2 + (13 - 5)^2} \\ &= \sqrt{(-17)^2 + 8^2} \\ &= \sqrt{289 + 64} \\ &= \sqrt{353} \approx 18.8 \end{aligned}$$

4. $QR = |-4 - 2| = |-6| = 6$

$$\begin{aligned} RS &= \sqrt{(4 - 2)^2 + (-3 - 3)^2} \\ &= \sqrt{(2)^2 + (-6)^2} \\ &= \sqrt{4 + 36} \\ &= \sqrt{40} \approx 6.32 \end{aligned}$$

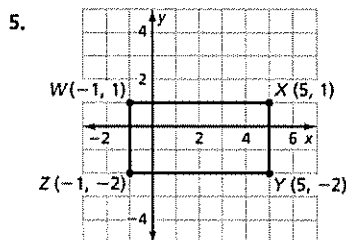
$TS = |-2 - 4| = |-6| = 6$

$$\begin{aligned} QT &= \sqrt{(-2 + 4)^2 + (-3 - 3)^2} \\ &= \sqrt{(2)^2 + (-6)^2} \\ &= \sqrt{4 + 36} \\ &= \sqrt{40} \approx 6.32 \end{aligned}$$

$$QR + RS + TS + QT = 6 + 6.32 + 6 + 6.32 = 24.64$$

$$A = bh = 6 \cdot 6 = 36$$

The perimeter is about 24.6 units and the area is 36 square units.



The quadrilateral $WXYZ$ is a rectangle; yes; If each unit on the coordinate plane represents 15 feet on the basketball court, then each square unit represents $15^2 = 225$ square feet. The rectangle on the coordinate plane that is 3 units by 6 units makes a good model of a basketball court that is 45 feet by 90 feet with the given perimeter and area.

6. In step 1, a compass is used to draw an arc. The two points (C and B) where this arc intersects the sides of the angle are the same distance from vertex A . In step 2, the compass is used to draw an arc of points equidistant from B and a separate arc of points equidistant from C . The point where these two arcs intersect is a point that is equidistant from each side of the angle. In step 3, a straightedge is used to draw the angle bisector, a ray that has an endpoint at the vertex and that passes through the point that is equidistant from each side of the angle.

7. $\angle NMK \cong \angle AEC$, $\angle KMO \cong \angle CED$, $\angle MOP \cong \angle QOR$, $\angle POQ \cong \angle MOR$; right angles: $\angle MKJ \cong \angle MKL \cong \angle LKH \cong \angle HKJ \cong \angle KHG \cong \angle GHF \cong \angle FHI \cong \angle KHI$; straight angles: $\angle NMO \cong \angle MOQ \cong \angle POR \cong \angle MKH \cong \angle KHF \cong \angle JKL \cong \angle GHI \cong \angle AED$

8. a. Vertical angles: $\angle KJL$ and $\angle PJN$, $\angle LJN$ and $\angle KJP$

b. Linear pairs: $\angle KJM$ and $\angle MJN$, $\angle KJP$ and $\angle PJN$, $\angle KJL$ and $\angle LJN$, $\angle LJM$ and $\angle MJP$, $\angle LJN$ and $\angle NJP$, $\angle KJL$ and $\angle KJP$

c. You turn at $\angle KJL$.

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Practice