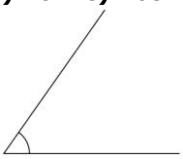
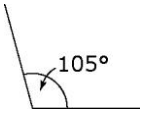
Chapter 10 BLM Answers

BLM 10–2 Chapter 10 Get Ready

1. a) 2 cm **b)** 1.5 cm
2. a) Examples: ~6 cm, ~4.5 cm
b) $2 \times 3.14 = 6.28$ cm, $1.5 \times 3.14 = 4.71$ cm
3. a) Example: any estimate between 20° and 30°
b) Example: any estimate between 45° and 55°
c) Example: any estimate between 100° and 110°
4. a) 25° **b)** 48° **c)** 105°
5. Example:

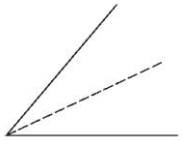


6.

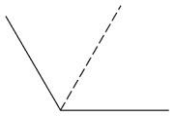


7. a)

b)



c)



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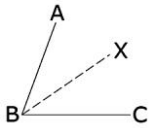
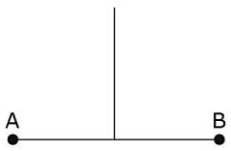
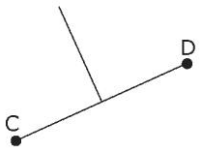


Example: The measure of ∠ABX is 35°, which is $\frac{1}{2}$ of 70°.

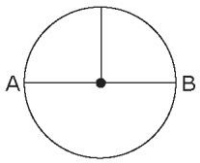
9. a)



b)



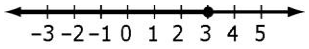
10.



BLM 10–3 Chapter 10 Warm-Up

Section 10.1

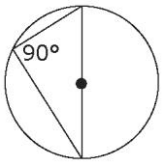
1. Incorrect. The circle at −1 should be an open circle.
2. $18 < x < 25$ **3.** $x > 2$
4.



5. $x > -5.5$ **6.** 115° **7.** 100° **8.** 67°
9. 235° **10.** A0 = B0 = C0

Section 10.2

1. The inequality reverses. **2.** $\frac{21}{8} > x$
3. ∠DCB and ∠DEB are inscribed angles. They both lie on the same arc so they are both equal to each other.
4. 135°
5. Example:



7.

8. 13 cm **9.** 3 cm
10. Example: wall and floor

Section 10.3

1. $x = 48°$; $y = 48°$ **2.** $x = 35°$; $y = 45°$
3. $x = 150°$; $y = 30°$ **4.** CD = 10 cm
5. Example: HJ ⊥ CF
6. 11.3 cm **7.** 15 cm **8.** $x = 66°$
9. ∠ABC = ∠BCA = ∠BAC = 60°
∠CAD = 30°; ∠ACD = 120°; ∠CDA = 30°
10. ∠D = 95°; ∠E = 30°; ∠F = 55°

BLM 10–4 Chapter 10 Problems of the Week

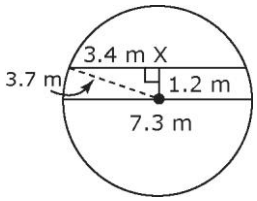
1. a) Example: Each hour is approximately $\frac{360^\circ}{12}$ or 130^o.
b) Example: The length of the day is 12 h.
c) Example: The string is the radius, the spike is the centre, the shadow is a radius, the distance covered each hour is an arc, and central angles are produced by marking the shadow at each hour.
2. 0.5 m **3.** 307.30 cm²
4. a) Example: All angle measures are the same.
b) Example: ∠AXB is twice any other angle for the circle.

BLM 10–5 Section 10.1 Extra Practice

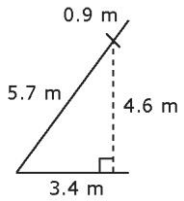
1. a) $\angle ABC = \angle AEC = \frac{1}{2}\angle ADC = 59°$. Example:
An inscribed angle is half the measure of a central angle subtended by the same arc.
b) $\angle ABC = 61°$, $\angle AEC = 122°$. Example:
Inscribed angles subtended by the same arc of a circle are equal. A central angle is twice the measure of an inscribed angle subtended by the same arc.
2. a) BC = 5 units **b)** BC = 5 units
3. 11.3 m
4. a) $m = 40°$, $n = 100°$, $x = 40°$, $y = 40°$
b) $m = 22.5°$, $n = 27.5°$, $x = 80°$

BLM 10–7 Section 10.2 Extra Practice

1. Example: Segment CX is a perpendicular bisector of AB. Segment CY is a perpendicular bisector of DE. Therefore, C is the centre of the circle.
2. CD = 5.7 units. Example: Segment CD bisects AB. If a bisector of a chord in a circle passes through the centre, then the bisector is perpendicular to the chord. $\angle CDA = \angle CDB = 90°$. AD = BD = 4 units. CE is a radius of the circle. Use the Pythagorean relationship.
3. CB = 6.4 units, ED = 1.4 units, EF = 12.8 units
4. CF = 12 units, CB = 12 units, BD = 8 units, CD = 8.9 units, DE = 3.1 units
5. Tipi ring = 6.9 m. Example:



Pole = 6.7 m. Example:

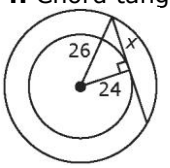


BLM 10–10 Section 10.3 Extra Practice

1. a) Isosceles triangle. Example: $\triangle RCT$ is an isosceles triangle because RC and TC are congruent radii.
b) $\angle TRC = 30°$
c) PN = 8 cm. Example:

$CN^2 = TN^2 + CT^2$ $\quad$ $CN = 13$
$CN^2 = 12^2 + 5^2$ $\quad$ $CP = 5$
$CN^2 = 169$ $\quad$ $PN + CP = CN$
$CN = 13$ $\quad$ $PN + 5 = 13$
$PN = 8$

2. a) $\angle OEF = 17°$ **b)** AX = 8 cm
c) DA = 4.9 cm
3. a) BE = 12 km
b) Sarah, by 1 km. Example: DE = 13 km (Pythagorean relationship)
Jorge = 13 km + 6 km = 19 km
Sarah = 6 km + 6 km + 6 km = 18 km
4. Chord tangent = 20 cm. Example:



5. The centres are 6.8 m apart.

BLM 10–13 Chapter 10 Test

1. A **2.** B **3.** A **4.** C
5. 43° **6.** 43° **7.** 42°
8. a) 90° **b)** $\sqrt{15}$ or 3.9 **c)** 25°
9. a) 26 cm **b)** 16 cm
10. 2.6 m