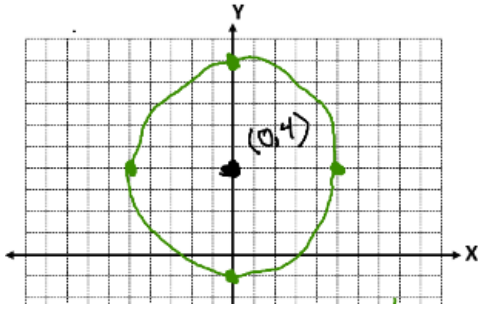
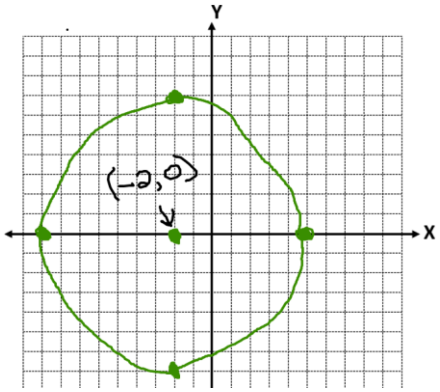
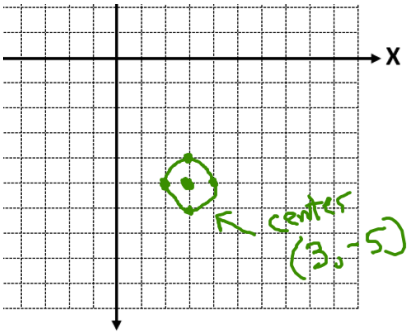
Integrated Math 2 – Key Concept 9 Solutions

Checkpoint 9A Solutions

1) See below:
   a. $(x)^2+(y-3)^2=9$
   b. $(x-4)^2+(y+3)^2=1$

2) 

3) 

4) 

5) Left 3 units, up 1 unit, dilated by a scale factor of 2 (enlargement)
6) Left 2 units, up 8 units, dilated by a scaled factor of 3 (enlargement)
7) Left 4 units, down 4 units, dilated by a scale factor of $\frac{1}{5}$ (reduction)
8) Left 13 units, down 28 units, dilated by a scale factor of $\frac{2}{3}$ (reduction)
9) $(x-12)^2+(y-8)^2=9$
10) $(x+10)^2+(y+11)^2=900$
11) Right 6 units, down 10 units, dilated by a scale factor of $\frac{3}{4}$ (reduction)

12) Left 3 units, up 5 units, dilated by a scale factor of 3 (enlargement)

13) $x = 10$

14) $x = \frac{11}{3}$

Checkpoint 9B Solutions

1) Chord
2) Bisect
3) Radius
4) Central angle
5) Diameter
6) Arc
7) Diameter
8) Radius
9) Bisect
10) Chord
11) Central angle
12) The first, 2nd, and 5th diagram should be circled.
13) TBD
14) TBD
15) $RS, RQ, QU, UT, ST, SQ, RU, QT$
16) $SRT, RQS, QUS, QUR, UTR, UTQ, TSQ, TSU$
17) SQU, STU, RST, RQT
18) 90
19) 29
20) 180
21) 241
22) 270
23) 270
24) 180
25) 90
26) 40
27) 180
28) 140
29) 70
30) 250
31) 320
32) x = 28
33) a = 12
34) x = 75
35) x = 140
36) x = 70
37) a = 68
38) a = 38 and b = 38
39) a = 124 and b = 62
40) a = 58 and b = 90 and c = 61

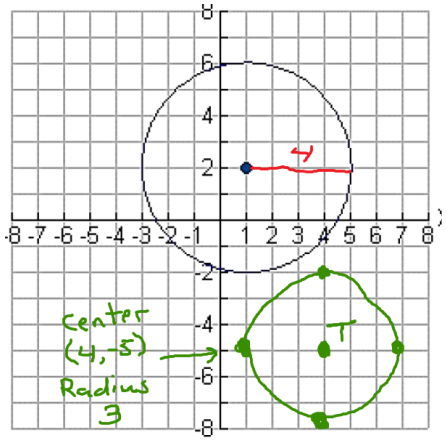
Checkpoint 9C

1) See below:
   a. $\frac{\pi}{3}$
   b. $\frac{4\pi}{3}$
   c. 60°
   d. 120°

1) $Arc\ Length = 6\pi\ or\ about\ 18.84\ inches$
2) $Arc\ Length = \frac{15\pi}{2}\ or\ about\ 23.55\ feet$
3) $Arc\ Length = 35\pi\ or\ about\ 109.9\ meters$
4) $Arc\ Length = 18\pi\ or\ about\ 56.52\ inches$
5) $Arc\ Length = 8.2\pi\ or\ about\ 25.748\ meters$
6) $Arc\ Length = 5\pi\ or\ about\ 15.7\ feet$
7) $Area\ of\ the\ Shaded\ Sector = 4\pi\ units^2\ or\ about\ 12.56\ units^2$
8) $Area\ of\ the\ Shaded\ Sector = \frac{18\pi}{5}\ units^2\ or\ 3.6\pi\ units^2\ or\ about\ 11.304\ units^2$
9) $Area\ of\ the\ Shaded\ Sector = \frac{3\pi}{2}\ units^2\ or\ 1.5\pi\ units^2\ or\ about\ 4.71\ units^2$
10) $Area\ of\ the\ Shaded\ Sector = 6\pi\ units^2\ or\ about\ 18.84\ units^2$
11) $Area\ of\ the\ Shaded\ Sector = \frac{63\pi}{8}\ units^2\ or\ 7.875\pi\ units^2\ or\ about\ 24.7275\ units^2$
12) $Area\ of\ the\ Shaded\ Sector = \frac{\pi}{2}\ units^2\ or\ about\ 1.57\ units^2$

Key Concept 9 Review Solutions

1) Translation: up 4 units and right 8 units. Scale Factor: $\frac{3}{2}$
2) Translation: up 2 units and left 7 units. Scale Factor: $\frac{9}{3} \rightarrow 3$
3) All circles are similar. That means they are the same "shape" but could be a different "size." Because they are the same shape, that means that all corresponding angles are congruent. So, that's why the central angles in this problem are congruent.
4) See below:
   a.



.

b. Down 7 units and right 3 units

c. Scale factor is $\frac{3}{4}$

5) m = 12

6) The inscribed angle is $\angle ACB$.

7) The chords are $\overline{AC}$ and $\overline{BC}$.

8) The major arc is ACB.

9) The measure of CD is 58. The intercepted arc of an inscribed angle is doubled the value of the inscribed angle.

10) The measure of PO is 93. The intercepted arc of a central angle is always equal to the value of the central angle.

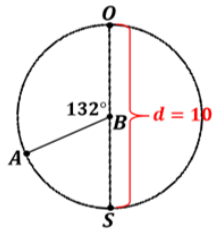
11) $\frac{41\pi}{36}$

12) $\frac{121\pi}{12}$

13) Answers may vary.

14) See below:

a.



b. $\frac{11\pi}{3}$

15) $\frac{16\pi}{3}\ cm^3$