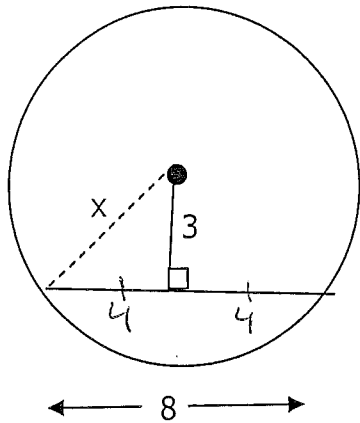


Ma 9
Solve for the unknown

Chord Property

1.



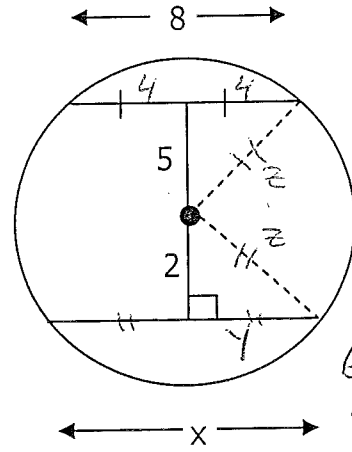
$$x^2 = 3^2 + 4^2$$

$$x^2 = 9 + 16$$

$$\sqrt{x^2} = \sqrt{25}$$

$$x = 5$$

4.



$$z^2 = 4^2 + 5^2$$

$$z^2 = 16 + 25$$

$$z^2 = 41$$

$$z = 6.4$$

$$6.4^2 = 2^2 + y^2$$

$$41 = 4 + y^2$$

$$-4 \quad -4$$

$$37 = y^2$$

$$6.1 = y$$

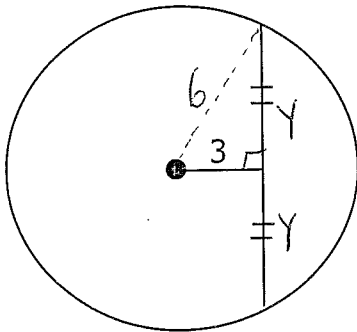
$$x = y + y$$

$$x = 6.1 + 6.1$$

$$x = 12.2$$

2.

$d = 12 \therefore r = 6$



$$6^2 = 3^2 + y^2$$

$$36 = 9 + y^2$$

$$\sqrt{27} = \sqrt{y^2}$$

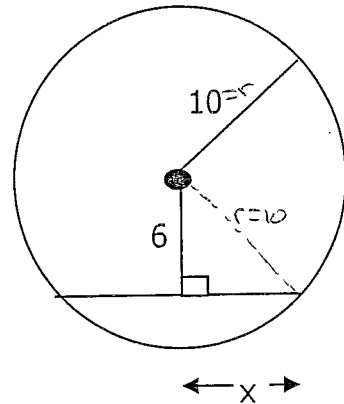
$$5.2 = y$$

$$x = y + y$$

$$x = 5.2 + 5.2$$

$$x = 10.4$$

5.



$$10^2 = 6^2 + x^2$$

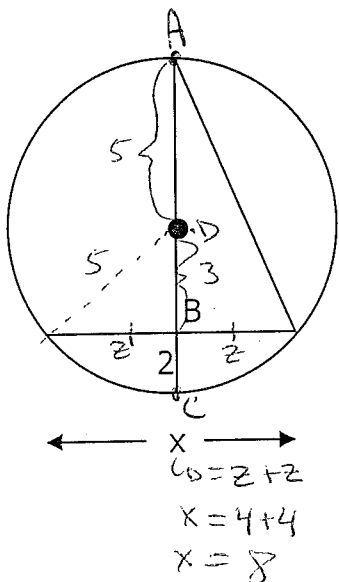
$$100 = 36 + x^2$$

$$-36 \quad -36$$

$$\sqrt{64} = \sqrt{x^2}$$

$$8 = x$$

3.



$AB = 8$

If $AB = 8, AC = 8 + z = 10$

$\therefore 10$ is diameter & $r = 5$

& $DB = 5 - 2 = 3$

$$5^2 = 3^2 + z^2$$

$$25 = 9 + z^2$$

$$\sqrt{16} = \sqrt{z^2}$$

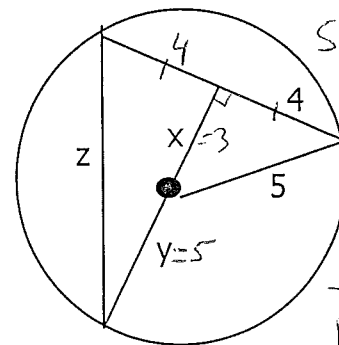
$$4 = z$$

$$x = z + z$$

$$x = 4 + 4$$

$$x = 8$$

6.



$$5^2 = x^2 + 4^2$$

$$25 = x^2 + 16$$

$$-16 \quad -16$$

$$\sqrt{9} = \sqrt{x^2}$$

$$3 = x$$

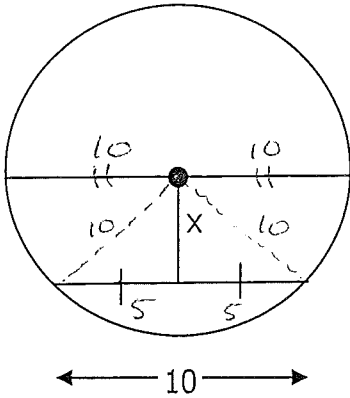
$$z^2 = 8^2 + 4^2$$

$$z^2 = 64 + 16$$

$$z^2 = 80$$

$$z = 8.9$$

7



$d = 20 \therefore r = 10$

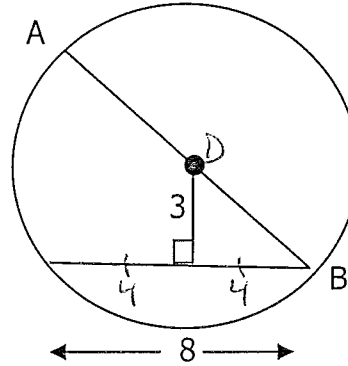
$10^2 = x^2 + 5^2$

$100 = x^2 + 25$
 $-25 \quad -25$

$75 = x^2$

$8.7 = x$

10. Find length of AB



$DB^2 = 3^2 + 4^2$

$DB^2 = 9 + 16$

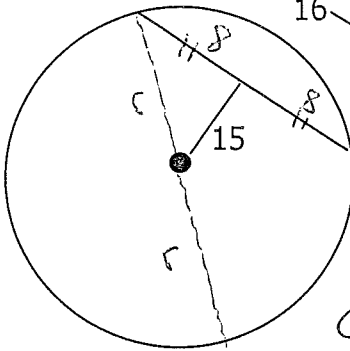
$\sqrt{DB^2} = \sqrt{25}$

$DB = 5$

If $DB = 5$, $AB = 5 + 5 = 10$

(AB is twice the radius)

8. Find the diameter



$r^2 = 15^2 + 8^2$

$r^2 = 225 + 64$

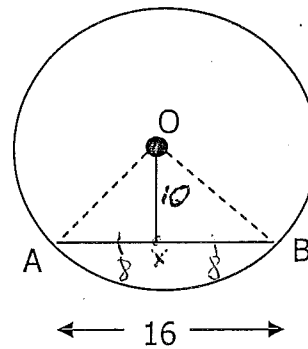
$r^2 = 289$

$r = 17$

$d = r + r$
 $d = 17 + 17$
 $d = 34$

11. Find the perimeter of ΔAOB

~~length of AX is 10~~



$OB^2 = 10^2 + 8^2$

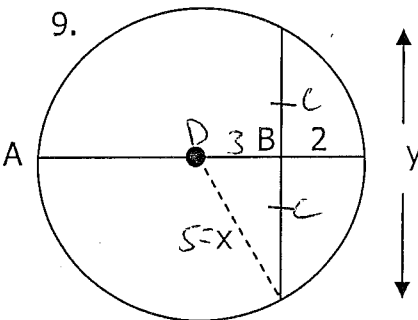
$OB^2 = 100 + 64$

$\sqrt{OB^2} = \sqrt{164}$

$OB = 12.8$

perimeter = $12.8 + 12.8 + 16$
 $= 41.6$

9.



~~CA~~

$5^2 = 3^2 + c^2$

$25 = 9 + c^2$

$\sqrt{16} = \sqrt{c^2}$

$4 = c$

$AB = 8 \therefore \text{diameter} = 8 + 2 = 10$
 $X = \text{radius} = 10 \div 2 = 5 \quad \therefore DB = 3$
 $Y = c + c$
 $= 4 + 4$
 $= 8$