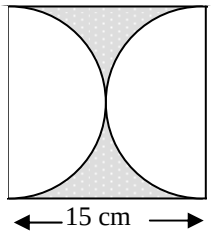
Geometry **Problem Set #6** **Name:**_____

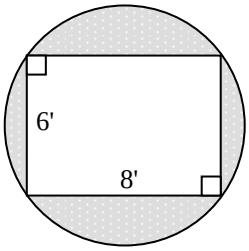
Period:_____

1-2: Find the area of the shaded region. Round your final answer to the nearest tenth.

1.



2.



3. Give a counter example that demonstrates the statement is false.

Statement: If $64 = x^2$, then $x = 8$.

4. Give a reason for each step of the following algebraic proof.

$4x + 6 = 5(2x - 6)$	Given
$4x + 6 = 10x - 30$	_____
$6 = 6x - 30$	_____
$36 = 6x$	_____
$6 = x$	_____

5. Statement: All penguins eat fish.

a. Write the statement in if-then form:_____

b. Write the converse:_____

6. Solve the following system of equations.

$4x + y = 10$

$y = 5x + 1$

7. Find the coordinates of the midpoint of $\overline{QR}$ with endpoints $Q(14, -4)$ and $R(-6, 5)$.

8. Give the next term in the pattern 1, 1, 2, 3, 5, 8, _____

9. Find the pattern d, 9, f, 16, h, 25, ____, _____

10. $\overrightarrow{CD}$ bisects $\angle ACB$. $m < DCB = x + 27^\circ$ *and* $m < ACB = 10x - 18^\circ$. Find x *and* $m < ACD$.

11. Write the converse, inverse, and contrapositve of the following implication.

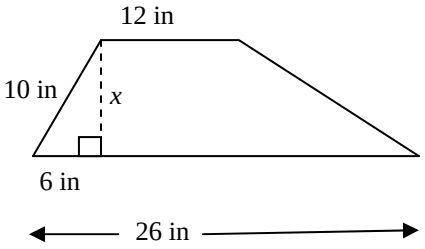
If it is Tuesday, then Tom has art class.

Converse:

Inverse:

Contrapositive:

12. Find x and the area of the figure.



13. Find the area of a triangle with sides 5cm, 12cm, and 9 cm.

14. Factor $6x^2 - 7x - 3$

15. Solve $6x^2 - 7x - 3 = 0$

16. Graph $5x - 3y = 3$