1 Which graph represents a circle with the equation \((x - 5)^2 + (y + 1)^2 = 9\)?

2 Which graph represents a circle with the equation \((x - 3)^2 + (y + 1)^2 = 4\)?
3 The equation of a circle is \((x - 2)^2 + (y + 4)^2 = 4\). Which diagram is the graph of the circle?

4 Which graph represents a circle whose equation is \((x - 2)^2 + (y + 4)^2 = 4\)?
5 Which graph represents a circle whose equation is 
\[(x + 2)^2 + y^2 = 16?\]

6 Which graph represents a circle whose equation is 
\[x^2 + (y - 1)^2 = 9?\]
7 Which graph represents a circle whose equation is \( x^2 + (y - 2)^2 = 4 \)?

1) 

2) 

3) 

4) 

8 Which graph represents the graph of the equation \((x - 1)^2 + y^2 = 4\)?

1) 

2) 

3) 

4)
9. Which graph represents a circle whose equation is 
\[(x + 3)^2 + (y - 1)^2 = 4?\]

1) 

2) 

3) 

4) 

10. John uses the equation \(x^2 + y^2 = 9\) to represent the shape of a garden on graph paper.

a. Graph \(x^2 + y^2 = 9\) on the accompanying grid.

b. What is the area of the garden to the nearest square unit?
11 On the set of axes below, graph and label circle $A$ whose equation is $(x + 4)^2 + (y - 2)^2 = 16$ and circle $B$ whose equation is $x^2 + y^2 = 9$. Determine, in simplest radical form, the length of the line segment with endpoints at the centers of circles $A$ and $B$.

12 For a carnival game, John is painting two circles, $V$ and $M$, on a square dartboard.

a On the accompanying grid, draw and label circle $V$, represented by the equation $x^2 + y^2 = 25$, and circle $M$, represented by the equation $(x - 8)^2 + (y + 6)^2 = 4$.

b A point, $(x,y)$, is randomly selected such that $-10 \leq x \leq 10$ and $-10 \leq y \leq 10$. What is the probability that point $(x,y)$ lies outside both circle $V$ and circle $M$?
G.GPE.A.1: Equations of Circles 6
Answer Section

1  ANS: 1  REF: 060920ge
2  ANS: 2  REF: 011125ge
3  ANS: 2  REF: 011020ge
4  ANS: 3  REF: 011518ge
5  ANS: 3  REF: 061220ge
6  ANS: 1  REF: 061325ge
7  ANS: 1  REF: 081324ge
8  ANS: 2  REF: 081425ge
9  ANS: 1  REF: 011614ge
10  ANS:

   ![Diagram]

   a) ; b) 28

   REF: 010133a

11  ANS:

   ![Diagram]

   REF: 081537ge
The dartboard is 20 x 20, with area of 400. \( A = \pi r^2 \), so the area of circle \( V \) is \( 25\pi \) and of circle \( M \) is \( 4\pi \). The percentage of the area of the dartboard outside both circles is

\[
\frac{400 - (25\pi + 4\pi)}{400} \approx 0.77
\]

REF: 060334b