(3) C_1

$$r = \sqrt{(-3)^2 + (-1)^2 - (-26)}$$

$$= \sqrt{9 + 1 + 26}$$

$$= \sqrt{36}$$

$$= 6$$

C_2 $(x-4)^2 + (y+2)^2 = 36$

Question	Generic scheme	Illustrative scheme	Max mark
3.	$\bullet^1$ find radius of circle C_1 $\bullet^2$ state equation of circle C_2	$\bullet^1$ 6 stated or implied by $\bullet^2$ $\bullet^2$ $(x-4)^2+(y+2)^2=36$	**2**

Notes:

1. Accept $\sqrt{3^2+1^2+26}=6$ or $\sqrt{-3^2+-1^2+26}=6$ for $\bullet^1$.
2. Do not accept $\sqrt{-3^2-1^2+26}=6$ for $\bullet^1$.
3. Do not accept $(x-4)^2+(y+2)^2=6^2$ for $\bullet^2$.
4. For candidates whose working for g^2+f^2-c does not arrive at a positive value, no marks are available. See Candidate A

Commonly Observed Responses:

Candidate A - 'fudging' negative values

$\sqrt{3^2+1^2-26}=4$ $\bullet^1$ ✗ $\bullet^2$ ✗

$(x-4)^2+(y+2)^2=16$