3. The rock is moving in a circle at constant speed, so it experiences a centripetal acceleration given by

$$
a_{c}=v^{2} / r
$$

We want to determine the value of the radius of the circle, so we multiply both sides of the equation by $r$

$$
r a_{c}=\left(v^{2} / r\right) r
$$

Next we divide both sides of the equation by $a_{c}$ to obtain an expression with $r$ alone on one side of the equation.

$$
\begin{aligned}
& r=v^{2} / a_{c} \\
& r=\left(2.5 \mathrm{~m} / \mathrm{s}^{2}\right)^{2} / 4.0 \mathrm{~m} / \mathrm{s}^{2} \\
& r=1.56 \mathrm{~m}
\end{aligned}
$$

