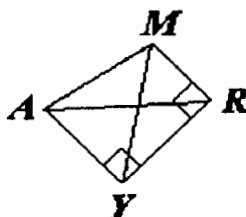


6. If the radius of the circle $x^2 + y^2 + 18x - 12y + 17 = 0$ is r and p is the solution to $\log_2(3p) + \log_2(2p - 1) = \log_2 9$, find p/r .
7. In the following diagram, $AY \perp YR$, $AM \perp MR$, and $AY = YR$. If $AR = 12$ and the measure of $\angle MAR$ is 30° , find the length of MY . Give your answer correct to four significant digits.



8. Let n be defined by $2^4 4^2 = n^8$. Let r be the remainder when $x^3 - 31x + 30$ is divided by $x - 1$. What is the value of the product nr ?
9. If f and g are defined by $f(x) = 3x + 2$ and $g(x) = 3x^2$, respectively, find $g\left(f^{-1}\left(\frac{3}{2}\right)\right)$.
10. Find the area of the triangle whose vertices are $(2, 1)$, $(4, 5)$, and $(-3, 2)$.

Answers

1. $4/3$
 2. 184
 3. $\left(\frac{24b + 15c + 4d}{12}\right)$
 4. $720/17$
 5. 3584π
 6. $3/20$
 7. 11.59
 8. 0
 9. $1/12$
 10. 11