**4.**

Which of the following is the Quotient of $-3y^6 - 9y^5 + 6y^4 + 34y^3 + 21y^2 + 4y + 8$ divided by $(-y-1)y^2$

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | $+(3y^3)$ | $+(6y^2)$ | $+(-12y)$ | $+(-22)$ |
| $(-y-1)y^2$ | $(-3)y^6$ | $+(-9)y^5$ | $+(6)y^4$ | $+(34)y^3$ | $+(21)y^2$ | $+(4)y$ | $+(8)$ |
| | $(-3y^6)$ | $+(-3y^5)$ | | | | | |
| | | $+(-6)y^5$ | $+(6)y^4$ | $+(34)y^3$ | $+(21)y^2$ | $+(4)y$ | $+(8)$ |
| | | $+(-6y^5)$ | $+(-6y^4)$ | | | | |
| | | | $+(12)y^4$ | $+(34)y^3$ | $+(21)y^2$ | $+(4)y$ | $+(8)$ |
| | | | $+(12y^4)$ | $+(12y^3)$ | | | |
| | | | | $+(22)y^3$ | $+(21)y^2$ | $+(4)y$ | $+(8)$ |
| | | | | $+(22y^3)$ | $+(22y^2)$ | | |
| | | | | | $+(-y^2)$ | $+(4y)$ | $+(8)$ |

Coefficient list:

{3, 6, -12, -22}