Simplify the following Rational Expressions – Multiplication and Division

1. $\frac{-8x^2}{y^3} \cdot \frac{15y}{4x}$

2. $\frac{2rs}{3} \cdot \frac{-3}{4s}$

3. $\frac{24m^6n}{18m^3} \cdot \left(\frac{2m}{9n^4}\right)$

4. $\frac{(2a^2)}{(3b)} \cdot \frac{(15b^3)}{(2a)}$

5. $\frac{(9xy^3)}{(3ay)} \cdot \frac{(8a^4x)}{(2y)}$

6. $\frac{x^2+3x}{x^2+2x-3} \cdot \frac{x+1}{x}$

7. $\frac{x^2-9}{4x+12} \cdot \frac{6}{x-3}$

8. $\frac{y^2+6y-16}{y^2-64} \cdot \frac{1}{(y-2)}$

9. $\frac{2y^2-50}{2y-10} \cdot \frac{(4y-2)}{(6y+30)}$

10. $\frac{2z-14}{z^2-2z-35} \div \frac{6z^3}{z^2-25}$

11. $\frac{a^2-4a}{a^2+2a} \div \left(\frac{a^2-9a+20}{a^2-3a-10}\right)$

12. $\frac{2z-8}{z^2-4} \div \frac{z-4}{z^2+6z+8}$

13. $\frac{1+3b-18b^2}{6b^2-17b-3} \div \left(\frac{3b-1}{b-3}\right)$

14. $\frac{3a+6c}{9a} \cdot \frac{12ac}{a^2-4c^2} \div \frac{18a^3c^3}{2a-4c}$

15. $\frac{5c^2-5c}{4a^3} \cdot \frac{c^2-9c-10}{4c-40} \div \frac{2-2c^2}{a}$

16. $\frac{12a^2-3}{15} \cdot \frac{1}{(2a+1)} \cdot \frac{5}{2a+1}$

17. $\frac{15-13x+2x^2}{4x^2-9} \cdot \frac{2x+1}{1-2x} \div \left(\frac{5-x}{2x-1}\right)$

18. $\frac{30-11p+p^2}{9p-6p^2+p^3} \cdot \frac{p^2-3p}{25-p^2} \div \left(\frac{p^2-9}{p^2+2p-15}\right)$