Simplifying Algebraic Expressions

Simplify each expression.

1) $\dfrac{5-r}{3r+4} - 6$

2) $\dfrac{g+h}{3g^2+5gh+2h^2} + \dfrac{3g-2h}{-3g^2+5gh-2h^2}$

3) $\dfrac{1}{2n+5} - \dfrac{4}{4n-8}$

4) $\dfrac{7u+21v}{10u+30v} + 11$

5) $\dfrac{q-3}{(q-3)^2} + \dfrac{4-q}{16-q^2}$

6) $\dfrac{4}{(2a-3)(a+4)} - \dfrac{8}{(a+4)(a-5)}$

Simplifying Algebraic Expressions

Answer key

Simplify each expression.

1) $\dfrac{5-r}{3r+4} - 6$

$\dfrac{-19r-19}{3r+4}$

2) $\dfrac{g+h}{3g^2+5gh+2h^2} + \dfrac{3g-2h}{-3g^2+5gh-2h^2}$

$\dfrac{2g+3h}{2h^2+gh-3g^2}$

3) $\dfrac{1}{2n+5} - \dfrac{4}{4n-8}$

$\dfrac{-n-7}{2n^2+n-10}$

4) $\dfrac{7u+21v}{10u+30v} + 11$

$11\dfrac{7}{10}$

5) $\dfrac{q-3}{(q-3)^2} + \dfrac{4-q}{16-q^2}$

$\dfrac{2q+1}{q^2+q-12}$

6) $\dfrac{4}{(2a-3)(a+4)} - \dfrac{8}{(a+4)(a-5)}$

$\dfrac{-12a+4}{2a^3-5a^2-37a+60}$