

Name : _____

Factors: Algebraic Identity

ES1

Factorize each expression using algebraic identity.

1) $81 - x^2y^2$

2) $t^2 - 64$

3) $d^2 - 9$

4) $\frac{1}{u^2} - v^2$

5) $\frac{m^2}{n^2} - 36$

6) $a^2b^2 - 144$

7) $4 - q^2$

8) $x^2 - y^2$

9) $z^2 - \frac{1}{z^2}$

10) $25 - p^2$

Name : _____

Answer key

ES1

Factors: Algebraic Identity

Factorize each expression using algebraic identity.

1) $81 - x^2y^2$

$(9 + xy)(9 - xy)$

2) $t^2 - 64$

$(t + 8)(t - 8)$

3) $d^2 - 9$

$(d + 3)(d - 3)$

4) $\frac{1}{u^2} - v^2$

$\left(\frac{1}{u} + v\right)\left(\frac{1}{u} - v\right)$

5) $\frac{m^2}{n^2} - 36$

$\left(\frac{m}{n} + 6\right)\left(\frac{m}{n} - 6\right)$

6) $a^2b^2 - 144$

$(ab + 12)(ab - 12)$

7) $4 - q^2$

$(2 + q)(2 - q)$

8) $x^2 - y^2$

$(x + y)(x - y)$

9) $z^2 - \frac{1}{z^2}$

$\left(z + \frac{1}{z}\right)\left(z - \frac{1}{z}\right)$

10) $25 - p^2$

$(5 + p)(5 - p)$