

Name : \_\_\_\_\_

## Expand: Algebraic Identities

MS1

Expand each expression using algebraic identities.

1)  $\left(\frac{s}{7} + \frac{t}{3}\right)^2$

2)  $\left(a + \frac{6}{5}\right)\left(a - \frac{1}{6}\right)$

3)  $(1.2 + k)(1.2 - k)$

5)  $(u^2 + v)(u^2 - v)$

7)  $\left(r + \frac{s}{8}\right)\left(r - \frac{s}{8}\right)$

9)  $\left(\frac{a}{2} - b + 5c\right)^2$

10)  $\left(x - \frac{6}{y}\right)^2$

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**Expand: Algebraic Identities**

Expand each expression using algebraic identities.

1)  $\left(\frac{s}{7} + \frac{t}{3}\right)^2$

$$\frac{s^2}{49} + \frac{t^2}{9} + \frac{2st}{21}$$

2)  $\left(a + \frac{6}{5}\right)\left(a - \frac{1}{6}\right)$

$$a^2 + \frac{31a}{30} - \frac{1}{5}$$

3)  $(1.2 + k)(1.2 - k)$

$$-k^2 + 1.44$$

5)  $(u^2 + v)(u^2 - v)$

$$u^4 - 2.3uv^2$$

7)  $\left(r + \frac{s}{8}\right)\left(r - \frac{s}{8}\right)$

$$r^2 - \frac{s^2}{64}$$

9)  $\left(\frac{a}{2} - b + 5c\right)^2$

$$\frac{a^2}{4} + b^2 + 25c^2 - ab - 10bc + 5ac$$

10)  $\left(x - \frac{6}{y}\right)^2$

$$x^2 - \frac{12x}{y} + \frac{36}{y^2}$$

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$$+ 6.25$$

$$gh + g + h + \frac{1}{4}$$

$$+ 0.09$$