



基本功专项训练(十) 乘法公式的运用



1. 计算：

$$(1)(-3x^2 + y^2)(y^2 + 3x^2);$$

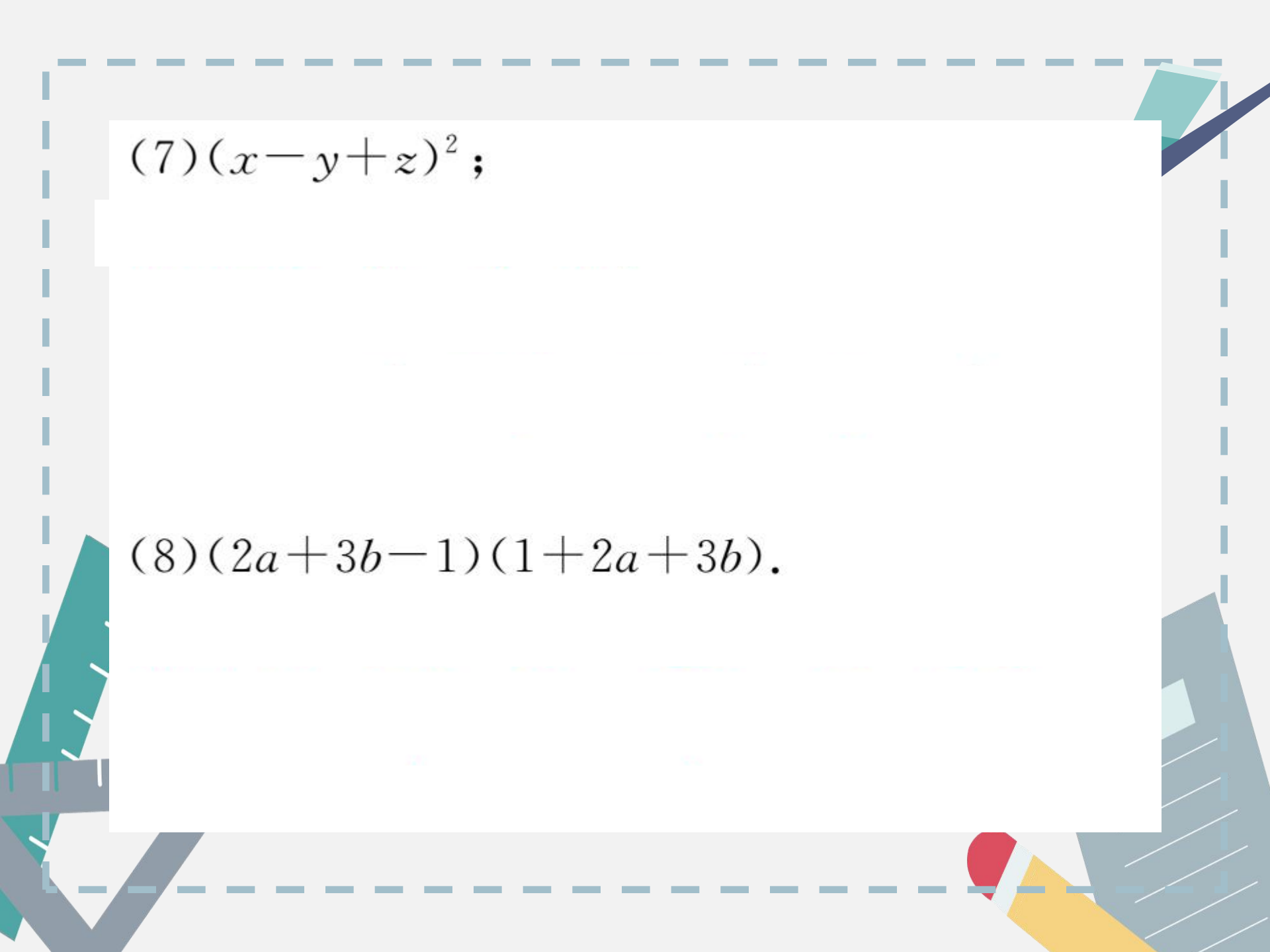
$$(2)(a-3)(a+3)(a^2+9);$$

$$(3) \left(-m + \frac{1}{2}n \right)^2 ;$$

$$(4) \left(\frac{1}{2}m + 2 \right)^2 - \left(2 - \frac{1}{2}m \right) \left(-2 - \frac{1}{2}m \right) ;$$

$$(5) (2x + 3y)^2 - (2x - 3y)^2;$$

$$(6) (a + 2b)(a - 2b) - \frac{1}{2}b(a - 8b);$$

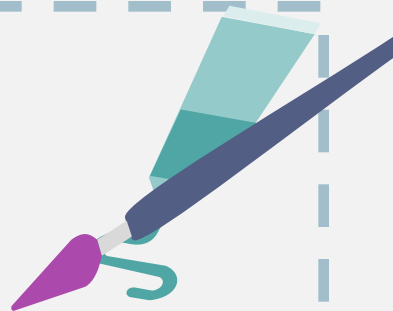

$$(7) (x - y + z)^2;$$

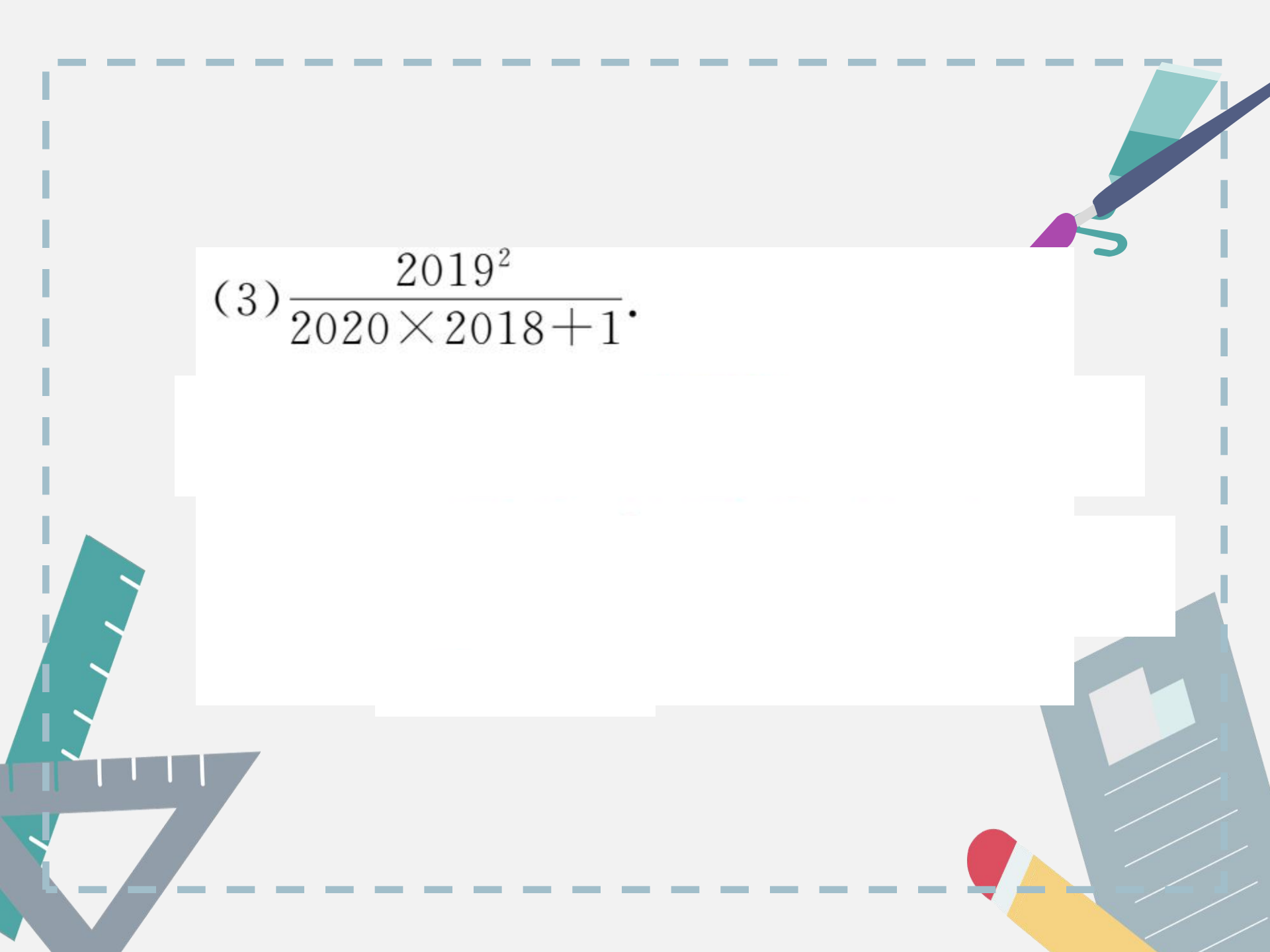
$$(8) (2a + 3b - 1)(1 + 2a + 3b).$$

2. 简便计算：

$$(1) 39.8 \times 40.2;$$

$$(2) 213^2 - 214 \times 212;$$



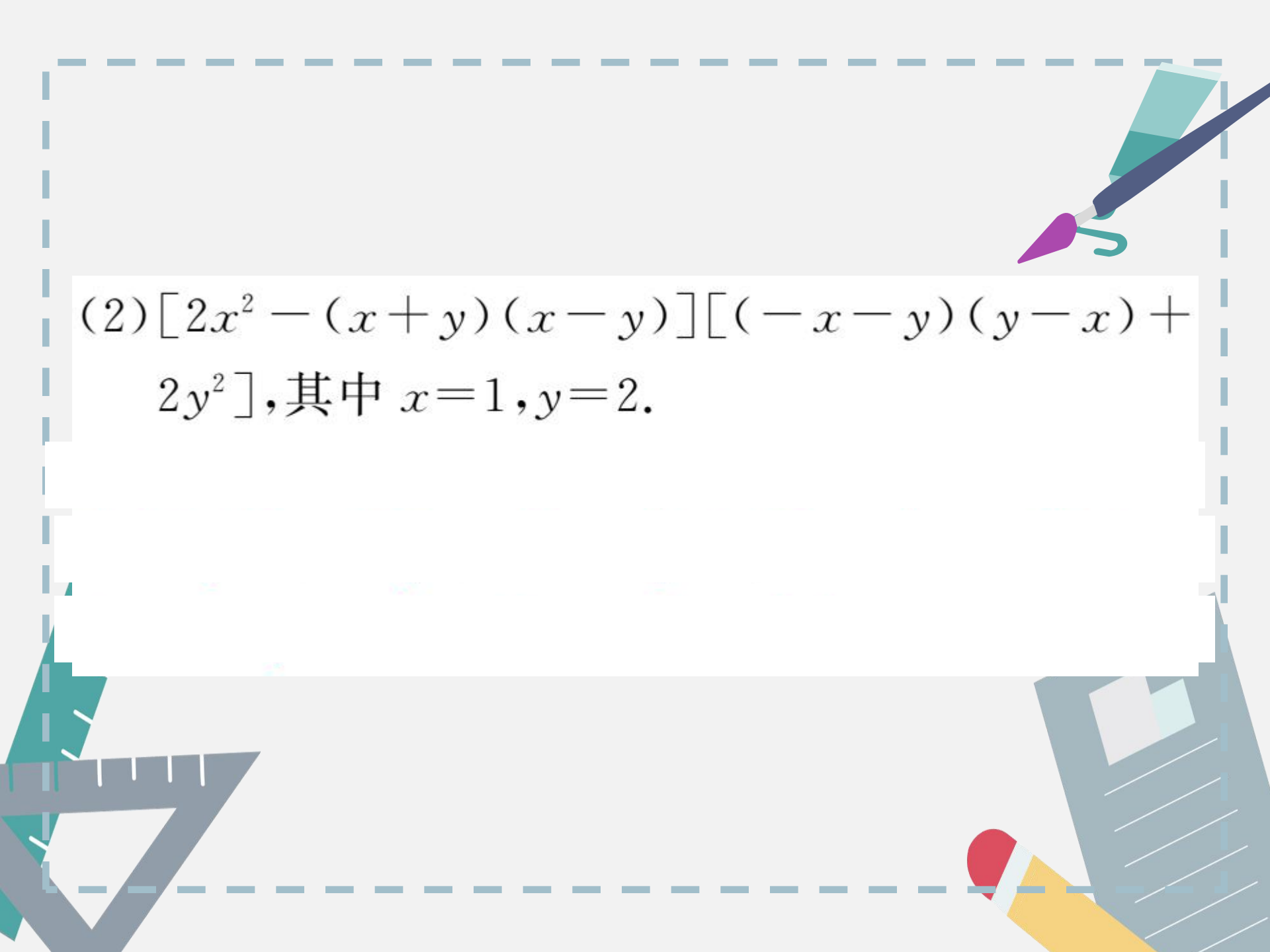

$$(3) \frac{2019^2}{2020 \times 2018 + 1}.$$



3. 先化简,再求值:

$$(1) (a-2b)^2 - 2(a+2b)(a-2b) + (a+2b)^2, \text{ 其中} \\ a=1, b=-2.$$





(2) $[2x^2 - (x + y)(x - y)][(-x - y)(y - x) + 2y^2]$, 其中 $x = 1, y = 2$.



4. 求证: 无论 y 取何值, 式子 $[(2x-y)^2 + (2x+y)(2x-y) + 4xy] \div 2x$ 的值与 y 无关.

