

$$1) \frac{a^2 - b^2}{a + b} = \frac{a^2 + ab - ab - b^2}{a + b}$$

$$= \frac{a(a + b) - b(a + b)}{(a + b)}$$

$$= \frac{(a + b)(a - b)}{(a + b)} = (a - b)$$

$$2) a) \frac{ab^2}{ab} = \frac{\cancel{a} \times \cancel{b} \times b}{\cancel{a} \times \cancel{b}} = b$$

$$b) a(a + b) + b(b - a) = a^2 + ab + b^2 - ab$$

$$= a^2 + b^2$$

$$3) a) \frac{b(a - b)}{a(a - b)} = \frac{b}{a}$$

$$b) \frac{(a - b)^2}{(a - b)} = a - b$$

$$4) \frac{a^2 b^3}{ab} = \frac{\cancel{a} \times \cancel{a} \times \cancel{b} \times b \times b}{\cancel{a} \times \cancel{b}} =$$

$$= ab^2$$

$$5) \frac{a^2 b^2}{a^2 b} = \frac{\cancel{a} \times \cancel{a} \times \cancel{b} \times b}{\cancel{a} \times \cancel{a} \times \cancel{b}} = b$$

$$8) \frac{b^2 - a^2}{a+b} = \frac{b^2 + ab - ab - a^2}{(a+b)}$$

$$= \frac{b(a+b) - a(a+b)}{(a+b)}$$

$$= \frac{(b-a)(a+b)}{(a+b)}$$

$$= b-a$$

$$10) a) a-b-(a-2b) = a-b-a+2b$$

$$b) \frac{(a+b)^2}{a^2-b^2} = \frac{(a+b)^2}{(a-b)(a+b)}$$

$$= \frac{(a+b)}{(a-b)}$$

$$12) \frac{a^3 b^2}{ab} = \frac{\cancel{a} \times \cancel{a} \times a \times \cancel{b} \times \cancel{b}}{\cancel{a} \times \cancel{b}}$$

$$= a^2 b$$

$$13) a) \frac{a^3 b^2}{a^2} = \frac{\cancel{a} \times \cancel{a} \times a \times \cancel{b} \times \cancel{b}}{\cancel{a} \times \cancel{a}}$$

$$= ab^2$$

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$$13) b) \frac{a^2 b}{ab^2} = \frac{\cancel{a} \times a \times \cancel{b}}{\cancel{a} \times \cancel{b} \times b}$$

$$= \frac{a}{b}$$

$$14) b) a(a-b) + b(a-b) = a^2 - ab + ab - b^2$$

$$= a^2 - b^2$$

$$=$$

$$15) a(2a+b) - 2a^2 = 2a^2 + ab - 2a^2$$

$$= ab$$

$$a) 16) a(b+1) - ab = ab + a - ab$$

$$= a$$

$$b) 16) (2b+a) - (2a+b) = 2b+a-2a-\cancel{b}-b$$

$$= \cancel{2b} - \cancel{b} - a = b-a$$