

1. Write an expression that is equivalent to $4r^2 - 13rs + 3s^2$.

$$r^2 - 13rs + 12s^2$$

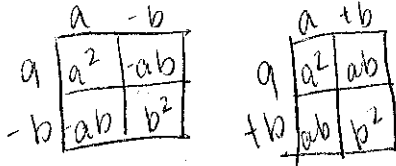
$$(r - \frac{12}{4}s)(r - \frac{1}{4}s)$$

$$(r-3s)(4r-s)$$

2. Write an expression that is equivalent to $z^2 - w^2$.

$$(z+w)(z-w)$$

3. Write an expression that is equivalent to $2(a-b)^2 + (a+b)^2$.

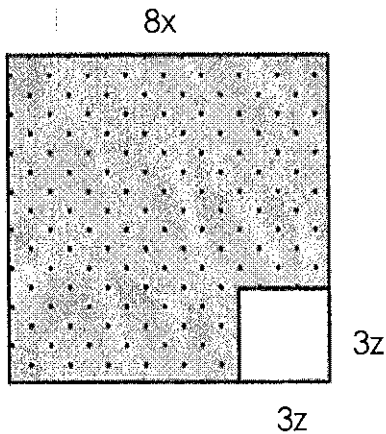


$$2(a^2 - 2ab + b^2) + a^2 + 2ab + b^2$$

$$2a^2 - 4ab + 2b^2 + a^2 + 2ab + b^2$$

$$3a^2 - 2ab + 3b^2$$

4. The floor plan of a living room is shown below. The eating area in the lower right corner is NOT carpeted. The rest of the room is carpeted.



$$8x \cdot 8x - 3z \cdot 3z$$

$$64x^2 - 9z^2$$

$$(8x - 3z)(8x + 3z)$$

Write an expression, in factored form, that represents the area of the floor that is carpeted.

5. Write an expression that is equivalent to $(a^4b^2c)^3$.

$$a^{12}b^6c^3$$

6. Factor $2x^2 + 5x - 3$.

$$x^2 + 5x - 6$$

$$(x + \frac{6}{2})(x - \frac{1}{2})$$

$$(x+3)(2x-1)$$

7. Factor $8x^2 - 16x - 64$.

$$\begin{aligned} & 8(x^2 - 2x - 8) \\ & \underline{\underline{8(x - 4)(x + 2)}} \end{aligned}$$

8. Factor $\frac{4x^3}{4x} - \frac{16x^2}{4x} + \frac{20x}{4x}$.

$$\begin{aligned} & 4x(x^2 - 4x + 5) \\ & \underline{\underline{4x(x-5)(x-1)}} \end{aligned}$$

9. Factor $25x^2 - 36$.

$$(5x + 6)(5x - 6)$$

10. Which binomial is factored correctly?

A. $2x^2 - 64 = (x - 8)(x + 8)$

B. $6x^2 - 14 = (3x - 7)(3x + 7)$

C. $10x^2 - 36 = (5x - 6)(5x + 6)$

D. $25x^2 - 1 = (5x - 1)(5x + 1)$

11. Factor $9x^2 + 64$.

prime b/c adding

12. Rewrite the following binomial as a difference of squares, $\frac{y^2}{9} - 16$.

square root
each part

$$\left(\frac{y}{3} - 4\right)\left(\frac{y}{3} + 4\right)$$

13. Write an expression that is equivalent to $12x^2 + 32x - 64$ in factored form.

$$\begin{aligned} & 4(3x^2 + 8x - 16) \\ & \quad x^2 + 8x - 48 \end{aligned}$$

$$4\left(x + \frac{12}{3}\right)\left(x - \frac{4}{3}\right)$$

$$\underline{\underline{4(x + 4)(3x - 4)}}$$