$$4a^2 + 20ab + 25b^2$$

Which of the following is a factor of the polynomial above?

A. $a + b$

B. $2a + 5b$

C. $4a + 5b$

D. $4a + 25b$

If $p = 3x+4$ and $v = x+5$, which of the following is equivalent to $pv - 2p + v$?

A. $3x^2 + 12x + 7$

B. $3x^2 + 14x + 17$

C. $3x^2 + 19x + 20$

D. $3x^2 + 26x + 33$

Which expression is equivalent to $\frac{8x(x-7)-3(x-7)}{2x-14}$, where $x > 7$?

A. $\frac{x-7}{5}$

B. $\frac{8x-3}{2}$

C. $\frac{8x^2-3x-14}{2x-14}$

D. $\frac{8x^2-3x-77}{2x-14}$

Which of the following is equivalent to the expression $x^4 - x^2 - 6$?

A. $(x^2 + 1)(x^2 - 6)$

B. $(x^2 + 2)(x^2 - 3)$

C. $(x^2 + 3)(x^2 - 2)$

D. $(x^2 + 6)(x^2 - 1)$

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

Which of the following is equivalent to the expression above?

A. $4x^2 + 21x + 33$

B. $4x^2 + 21x + 29$

C. $4x^2 + x + 29$

D. $4x^2 + x + 33$

Which of the following expressions is equivalent to $x^2 - 5$?

A. $(x + \sqrt{5})^2$

B. $(x - \sqrt{5})^2$

C. $(x + \sqrt{5})(x - \sqrt{5})$

D. $(x + 5)(x - 1)$

Which of the following is an equivalent form of
$(1.5x-2.4)^2-(5.2x^2-6.4)$?

A. $-2.2x^2+1.6$

B. $-2.2x^2+11.2$

C. $-2.95x^2-7.2x+12.16$

D. $-2.95x^2-7.2x+0.64$

$$\sqrt[3]{x^3y^6}$$

Which of the following expressions is equivalent to the expression above?

A. y^2

B. xy^2

C. y^3

D. xy^3

Which expression is equivalent to $(d - 6)(8d^2 - 3)$?

A. $8d^3 - 14d^2 - 3d + 18$

B. $8d^3 - 17d^2 + 48$

C. $8d^3 - 48d^2 - 3d + 18$

D. $8d^3 - 51d^2 + 48$

If $x^2 = a+b$ and $y^2 = a+c$, which of the following is equal to $(x^2-y^2)^2$?

A. $a^2 - 2ac + c^2$

B. $b^2 - 2bc + c^2$

C. $4a^2 - 4abc + c^2$

D. $4a^2 - 2abc + b^2c^2$

If $x \neq 0$, which of the following expressions is equivalent to $\dfrac{\sqrt{16x^4y^8}}{x^3}$?

A. $8x^2y^4$

B. $4xy^4$

C. $4x^{-2}y^2$

D. $4x^{-1}y^4$

$x^2 + 6x + 4$

Which of the following is equivalent to the expression above?

A. $(x + 3)^2 + 5$

B. $(x + 3)^2 - 5$

C. $(x - 3)^2 + 5$

D. $(x - 3)^2 - 5$

Which expression is equivalent to $\left(7x^3 + 7x\right) - \left(6x^3 - 3x\right)$?

A. $x^3 + 10x$

B. $-13x^3 + 10x$

C. $-13x^3 + 4x$

D. $x^3 + 4x$

Which expression is equivalent to $6x^8y^2 + 12x^2y^2$?

A. $6x^2y^2(2x^6)$

B. $6x^2y^2(x^4)$

C. $6x^2y^2(x^6 + 2)$

D. $6x^2y^2(x^4 + 2)$

Which expression is equivalent to $a^{\frac{11}{12}}$, where $a > 0$?

A. $\sqrt[12]{a^{132}}$

B. $\sqrt[144]{a^{132}}$

C. $\sqrt[121]{a^{132}}$

D. $\sqrt[11]{a^{132}}$

The sum of $-2x^2+x+31$ and $3x^2+7x-8$ can be written in the form ax^2+bx+c, where a, b, and c are constants. What is the value of $a+b+c$?

$$\left(\frac{1}{2}x+\frac{3}{2}\right)\left(\frac{3}{2}x+\frac{1}{2}\right)$$

The expression above is equivalent to ax^2+bx+c, where a, b, and c are constants. What is the value of b?

Which of the following is equivalent to the sum of $3x^4 + 2x^3$ and $4x^4 + 7x^3$?

A. $16x^{14}$

B. $7x^8 + 9x^6$

C. $12x^4 + 14x^3$

D. $7x^4 + 9x^3$

$2x^2 + 5x - 12$

If the given expression is rewritten in the form $(2x - 3)(x + k)$, where k is a constant, what is the value of k ?

Which expression represents the product of $\left(x^{-6}y^3z^5\right)$ and $\left(x^4z^5 + y^8z^{-7}\right)$?

A. $x^{-2}z^{10} + y^{11}z^{-2}$

B. $x^{-2}z^{10} + x^{-6}z^{-2}$

C. $x^{-2}y^3z^{10} + y^8z^{-7}$

D. $x^{-2}y^3z^{10} + x^{-6}y^{11}z^{-2}$

Which of the following is equivalent to
$(1-p)(1+p+p^2+p^3+p^4+p^5+p^6)$?

A. $1-p^8$

B. $1-p^7$

C. $1-p^6$

D. $1-p^5$

$(2x+3)-(x-7)$

Which of the following is equivalent to the given expression?

A. $x-4$

B. $3x-4$

C. $x+10$

D. $2x^2+21$

$$\left(\frac{1}{2}x+3\right)-\left(\frac{2}{3}x-5\right)$$

Which of the following is equivalent to the expression above?

A. $-\frac{1}{6}x+8$

B. $-\frac{1}{6}x-2$

C. $-\frac{1}{3}x^2+\frac{1}{2}x+15$

D. $-\frac{1}{3}x^2-\frac{9}{2}x-15$

$$(4x^3 - 5x^2 + 3) - (6x^3 + 2x^2 - x)$$

Which of the following expressions is equivalent to the expression above?

A. $-10x^3 - 3x^2 + x + 3$

B. $-2x^3 - 7x^2 + x + 3$

C. $-2x^3 - 3x^2 + x + 3$

D. $10x^3 - 7x^2 - x + 3$

Which of the following is equivalent to

$\sqrt[4]{x^2+8x+16}$, where $x > 0$?

A. $(x+4)^4$

B. $(x+4)^2$

C. $(x+4)$

D. $(x+4)^{\frac{1}{2}}$

$(x-11y)(2x-3y)-12y(-2x+3y)$

Which of the following is equivalent to the expression above?

A. $x-23y$

B. $2x^2-xy-3y^2$

C. $2x^2+24xy+36y^2$

D. $2x^2-49xy+69y^2$