

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Advanced Math	Equivalent expressions	<div> <div></div> <div></div> <div></div> </div>

ID: dd4ab4c4

2.1

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

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

- A. $a + b$
- ~~B. $2a + 5b$~~
- C. $4a + 5b$
- D. $4a + 25b$

ลองแทน $a = 2$
 $b = 3$
 ใช้ข้อไหนหาค่าลงตัว
 ถ้ามีหลายข้อ ต้องเปลี่ยนค่า a และ b
 แต่ข้อไหนโดนตัดไม่ต้องไปยุ่งกับมัน

ทำตรงๆก็ได้
 $(2a + 5b)^2$

Question ID b8caaf84

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ID: b8caaf84

2.2

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

A. $3x^2 + \underline{12x} + 7$

~~B. $3x^2 + \underline{14x} + 17$~~

C. $3x^2 + \underline{19x} + 20$

D. $3x^2 + \underline{26x} + 33$

$$\begin{array}{r|l}
 \text{pV} \rightarrow 19x & \text{pV} \\
 - 2p \rightarrow 13x & \\
 + v \rightarrow \underline{14x} & \\
 \hline
 & 20 \\
 & 12 \\
 & \underline{17}
 \end{array}$$

Question ID ad2ec615

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ID: ad2ec615

2.3

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

- A. $(x^2+1)(x^2-6)$ ✗
 ✗ $(x^2+2)(x^2-3)$
 C. $(x^2+3)(x^2-2)$ ✗
 D. $(x^2+6)(x^2-1)$ ✗

$$(\vec{a} \times \vec{b}) + (\vec{b} \times \vec{a})$$

Question ID 42c71eb5

Assessment	Test	Domain	Skill	Difficulty
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ID: 42c71eb5

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

2.4

Which of the following is equivalent to the expression above?

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

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

C. $4x^2 + \del{x} + 29$

D. $4x^2 + \del{x} + 33$

20X 25

19X 27

21X 33

Question ID a05bd3a4

Assessment	Test	Domain	Skill	Difficulty
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ID: a05bd3a4

2.5

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

$$x^2 - \sqrt{5}^2$$
$$(x - \sqrt{5})(x + \sqrt{5}) //$$

Question ID cc776a04

Assessment	Test	Domain	Skill	Difficulty
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ID: cc776a04

2.6

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. ~~$-2.2x^2 + 1.2$~~
- ~~C. $-2.95x^2 - 7.2x + 12.16$~~
- D. $-2.95x^2 - 7.2x + 0.64$

$$(1.5)^2 - 5.2 = -2.95$$

$$(-2.4)^2 + 6.4 = 12.16$$

Question ID a520ba07

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ID: a520ba07

2.7

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

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

A. y^2

~~B. xy^2~~

C. y^3

D. xy^3

$$(x^3y^6)^{\frac{1}{3}} = xy^2 //$$

Question ID 5b6af6b1

Assessment	Test	Domain	Skill	Difficulty
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ID: 5b6af6b1

2.8

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

$-48d^2$

$+18$

Question ID a255ae72

Assessment	Test	Domain	Skill	Difficulty
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ID: a255ae72

2.9

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

$$\begin{aligned}
 & x^4 - 2x^2y^2 + y^4 \quad \text{ynn} \\
 & \hline
 & [(a+b) - (a+c)]^2 \\
 & = (b-c)^2 \\
 & = b^2 - 2bc + c^2 //
 \end{aligned}$$

Question ID 463eec13

Assessment	Test	Domain	Skill	Difficulty
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ID: 463eec13

2.10

If $x \neq 0$, which of the following expressions is

equivalent to $\frac{\sqrt{16x^4y^8}}{x^3}$?

A. ~~x^2y^4~~

B. ~~$4x^4$~~

C. ~~$4x^2y^4$~~

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

$$\frac{4x^2y^4}{x^3} = \frac{4y^4}{x}$$

Question ID a1bf1c4e

Assessment	Test	Domain	Skill	Difficulty
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ID: a1bf1c4e

$$\underline{x^2} + 6x + 4$$

2.11

Which of the following is equivalent to the expression above?

- A. $(\underline{x+3})^2 + 5$ ~~X~~
- ~~X~~ B. $(\underline{x+3})^2 - 5$ ~~~~
- C. $(x-3)^2 + 5$ ~~X~~
- D. $(x-3)^2 - 5$ ~~~~

$$\underline{9-5} = 4$$

Question ID f237ccfc

Assessment	Test	Domain	Skill	Difficulty
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ID: f237ccfc

2.12

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 $a + b + c$?

$$x^2 + 8x + 23$$

$$\begin{aligned} a + b + c &= 1 + 8 + 23 \\ &= 32 // \end{aligned}$$

Question ID a391ed22

Assessment	Test	Domain	Skill	Difficulty
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ID: a391ed22

2.13

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

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

$$\begin{aligned} & \left(\frac{1}{2}x + \frac{3}{2}\right) + \left(\frac{3}{2}x + \frac{1}{2}\right) \\ &= \frac{5}{2} \text{ or } 2.5 \\ & \quad // \quad // \end{aligned}$$

Question ID c3a72da5

Assessment	Test	Domain	Skill	Difficulty
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ID: c3a72da5

2.14

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

A. ~~$10x^{14}$~~

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

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

~~$7x^4 + 9x^3$~~

~~$7x^4$~~

Question ID 16de54c7

Assessment	Test	Domain	Skill	Difficulty
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ID: 16de54c7

$$2x^2 + 5x - 12$$

2.15

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

$$\begin{aligned} -3k &= -12 \\ k &= 4 // \end{aligned}$$

หลัง x หลัง

หรือ (๑๒ x ๑๒) + (๑๒ x ๑๒)

Question ID d9137a84

Assessment	Test	Domain	Skill	Difficulty
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ID: d9137a84

2.16

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

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

Handwritten red annotations: Two curved arrows point from the y^3 in the first expression to the y^8 in the second expression. Below these, the terms y^3 and y^{11} are written in red.

Question ID 3e9cc0c2

Assessment	Test	Domain	Skill	Difficulty
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ID: 3e9cc0c2

2.17

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

when $p = 2 \rightarrow -127$

- A. $1-p^8$ ✗
- ~~B. $1-p^7$~~ -127
- C. $1-p^6$ ✗
- D. $1-p^5$ ✗

Question ID 7348f046

Assessment	Test	Domain	Skill	Difficulty
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ID: 7348f046

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

2.18

Which of the following is equivalent to the given expression?

A. ~~$x - 4$~~

B. ~~$3x - 4$~~

~~C. $x + 10$~~

D. ~~$2x^2 + 21$~~

$x + 10 //$

Question ID b47419f4

Assessment	Test	Domain	Skill	Difficulty
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ID: b47419f4

2.19

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

Which of the following is equivalent to the expression above?

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

B. $-\frac{1}{6}x - 4$

C. $-\frac{1}{3}x^2 + \frac{1}{2}x + 5$

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

$$+ 8$$

Question ID 8838a672

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Advanced Math	Equivalent expressions	

ID: 8838a672

2.20

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

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

- A. ~~$-7x^3 - 3x^2 + x + 3$~~
- B. ~~$-2x^3 - 7x^2 + x + 3$~~
- C. $-2x^3 - 3x^2 + x + 3$
- D. ~~$-7x^3 - 7x^2 - x + 3$~~

$$-2x^3 - 7x^2$$

Question ID 0b3d25c5

Assessment	Test	Domain	Skill	Difficulty
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ID: 0b3d25c5

2.21

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. $(x+4)^{\frac{1}{2}}$ 2.44

let $x = 2 \rightarrow \sqrt[4]{36} = 2.44$

$\sqrt[4]{(x+4)^2} = (x+4)^{\frac{1}{2}}$ //

Desmos calculator

$\sqrt[4]{} \rightarrow ()^{\frac{1}{4}}$

Question ID c602140f

Assessment	Test	Domain	Skill	Difficulty
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ID: c602140f

2.22

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

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. $2x^2 - 49xy + 69y^2$ ✗

$$33y^2 - 36y^2 = -3y^2$$

Question ID 3206b905

Assessment	Test	Domain	Skill	Difficulty
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ID: 3206b905

2.23

Which of the following expressions is equivalent to $8x^{10} - 8x^9 + 88x$?

- A. $x(7x^{10} - 7x^9 + 87x)$
- B. $x(8x^{10} - 8^9 + 88)$
- C. $8x(x^{10} - x^9 + 11x)$
- ~~D. $8x(x^9 - x^8 + 11)$~~

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