Question ID 787f15f1

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Advanced Math	Equivalent expressions	Easy

ID: 787f15f1

Which expression is equivalent to $9x + 6x + 2y + 3y$?

A. $3x + 5y$

B. $6x + 8y$

C. $12x + 8y$

D. $15x + 5y$

ID: 787f15f1 Answer

Correct Answer: D

Rationale

Choice D is correct. Combining like terms in the given expression yields $(9x + 6x) + (2y + 3y)$, or $15x + 5y$.

Choice A is incorrect and may result from conceptual or calculation errors.

Choice B is incorrect and may result from conceptual or calculation errors.

Choice C is incorrect and may result from conceptual or calculation errors.

Question Difficulty: Easy

Question ID 07088dc8

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Advanced Math	Equivalent expressions	Easy

ID: 07088dc8

Which expression is equivalent to $8 + d^2 + 3$?

A. $d^2 + 24$

B. $d^2 + 11$

C. $d^2 + 5$

D. $d^2 - 11$

ID: 07088dc8 Answer

Correct Answer: B

Rationale

Choice B is correct. The given expression can be rewritten as $d^2 + 8 + 3$. Adding 8 and 3 in this expression yields $d^2 + 11$.

Choice A is incorrect. This expression is equivalent to $d^2 + 8(3)$.

Choice C is incorrect. This expression is equivalent to $8 + d^2 - 3$.

Choice D is incorrect. This expression is equivalent to $-8 + d^2 - 3$.

Question Difficulty: Easy

Question ID cb7db3af

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Advanced Math	Equivalent expressions	Easy

ID: cb7db3af

Which expression is equivalent to $12x + 27$?

A. $12(9x + 1)$

B. $27(12x + 1)$

C. $3(4x + 9)$

D. $3(9x + 24)$

ID: cb7db3af Answer

Correct Answer: C

Rationale

Choice C is correct. Each term in the given expression, $12x + 27$, has a common factor of 3. Therefore, the expression can be rewritten as $3(4x) + 3(9)$, or $3(4x + 9)$. Thus, the expression $3(4x + 9)$ is equivalent to the given expression.

Choice A is incorrect. This expression is equivalent to $108x + 12$, not $12x + 27$.

Choice B is incorrect. This expression is equivalent to $324x + 27$, not $12x + 27$.

Choice D is incorrect. This expression is equivalent to $27x + 72$, not $12x + 27$.

Question Difficulty: Easy

Question ID 257c4d29

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Advanced Math	Equivalent expressions	Easy

ID: 257c4d29

Which expression is equivalent to $16(x + 15)$?

A. $16x + 31$

B. $16x + 240$

C. $16x + 1$

D. $16x + 15$

ID: 257c4d29 Answer

Correct Answer: B

Rationale

Choice B is correct. The expression $16(x + 15)$ can be rewritten as $16(x) + 16(15)$, which is equivalent to $16x + 240$.

Choice A is incorrect and may result from conceptual or calculation errors.

Choice C is incorrect and may result from conceptual or calculation errors.

Choice D is incorrect and may result from conceptual or calculation errors.

Question Difficulty: Easy

Question ID c224304c

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Advanced Math	Equivalent expressions	Easy

ID: c224304c

Which expression is equivalent to $34x + 34y$?

A. $34xy$

B. $34(x + y)$

C. $68y$

D. $68x$

ID: c224304c Answer

Correct Answer: B

Rationale

Choice B is correct. Since 34 is a common factor of each term in the given expression, the expression can be rewritten as $34(x + y)$.

Choice A is incorrect and may result from conceptual or calculation errors.

Choice C is incorrect. This expression is equivalent to $34y + 34y$.

Choice D is incorrect. This expression is equivalent to $34x + 34x$.

Question Difficulty: Easy

Question ID f9591106

Assessment	Test	Domain	Skill	Difficulty
PSAT 8/9	Math	Advanced Math	Equivalent expressions	Easy

ID: f9591106

Which expression is equivalent to $50x^2 + 5x^2$?

A. $250x^2$

B. $10x^2$

C. $45x^2$

D. $55x^2$

ID: f9591106 Answer

Correct Answer: D

Rationale

Choice D is correct. The given expression shows addition of two like terms. Therefore, the given expression is equivalent to $(50 + 5)x^2$, or $55x^2$.

Choice A is incorrect. This expression is equivalent to $(50)(5)x^2$, not $(50 + 5)x^2$.

Choice B is incorrect. This expression is equivalent to $\left(\frac{50}{5}\right)x^2$, not $(50 + 5)x^2$.

Choice C is incorrect. This expression is equivalent to $(50 - 5)x^2$, not $(50 + 5)x^2$.

Question Difficulty: Easy