

Extra Practice

<p>① $10x - 8x + 7x + 2$</p> $\boxed{9x + 2}$	<p>② $(3y + 5) + (7y - 8)$</p> $3y + 5 + 7y - 8$ $\boxed{10y - 3}$
<p>③ $(12a + 6) - (8a - 4)$ minus changes</p> $12a + 6 - 8a + 4$ $12a - 8a + 6 + 4$ $\boxed{4a + 10}$	<p>④ $11n + 5 - 9n - (7n + 4)$</p> $11n + 5 - 9n - 7n - 4$ $-5n + 1$
<p>⑤ $7u - 2(u + 5)$</p> $7u - 2u + 10$ $\boxed{5u + 10}$	<p>⑥ $3(y - 2) + 5(6 + y)$</p> $3y - 6 + 30 + 5y$ $\boxed{8y + 24}$
<p>⑦ $(4x + 10) - 2(3x - 5)$</p> $4x + 10 - 6x + 10$ $\boxed{-2x + 20}$	<p>⑧ $(24n - 16) \div 4$</p> $\boxed{6n - 4}$
<p>⑨ $y + (y + 4) + (y - 4)$</p> $y + y + 4 + y - 4$ $\boxed{3y}$	<p>⑩ $5(2x) + 3(3x - 4) - 6(7x)$</p> $10x + 9x - 12 - 42x$ $\boxed{-23x - 12}$
<p>⑪ $(8x - 6) - (3x - 6)$</p> $8x - 6 - 3x + 6$ $\boxed{5x}$	<p>⑫ $(4s - 5) - (4s - 5)$</p> $4s - 5 - 4s + 5$ $\boxed{0}$
<p>⑬ $(8 - n) + (n - 8) + 4n$</p> $8 - n + n - 8 + 4n$ $\boxed{4n}$	<p>⑭ $3(5 - 2x) - 6(x + 8)$</p> $15 - 6x - 6x - 48$ $\boxed{-12x - 33}$

Now bring like terms together

SHOW YOUR WORK ✓

CHECK YOUR WORK ✓✓

VALIDATE YOUR WORK ✓✓✓

- 15 A repairman earns $\$3x$ per hour plus $\$60$ for traveling expenses. Write an *algebraic expression* to represent a bill for 15 hours of work (excluding taxes).
x ← we don't know how many hours he works

$$3x + 60$$

- 16 Lauren buys x packages of lined paper for $\$2.25$ each (taxes included). She pays with a $\$20$ bill. Write an *algebraic expression* to represent the amount of change the cashier should give back to Lauren.
subtract

$$2.25x - 20$$

- 17 Charlotte pays $\$x$ for one dozen¹² Sharpie markers. Write an *algebraic expression* to represent the cost of 75 Sharpie markers.

$$\frac{75}{12} = 6.25 \text{ dozen} \rightarrow$$

$$6.25x$$

- 18 Simplify each of the following expressions.

① $(9x + 8) - (4x - 11)$

$$9x + 8 - 4x + 11$$

$$5x - 3$$

② $(2 - 7x) + (3x - 6x)$

$$2 - 7x + 3x - 6x$$

$$-10x + 2$$

③ $(14x + 15) - (13x - 12) - 16$

$$14x + 15 - 13x + 12 - 16$$

$$1x + 27 - 16$$

$$1x + 11$$

④ $12x + 9 - 17x$

$$-5x + 9$$

⑤ $12(-7x)$

$$-84x$$

⑥ $6(5x - 3)$

$$30x - 18$$

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CHECK YOUR WORK ✓ ✓

VALIDATE YOUR WORK ✓ ✓ ✓

Grade 8 Math Workbook

⑦ $4x - 8(2x + 3)$

$$\begin{array}{r} 4x - 16x - 24 \\ \hline -12x - 24 \end{array}$$

⑧ $(32x - 16) \div 4$

$$\frac{32x - 16}{4} \Rightarrow 8x$$

⑨ $(20 + 16x - 28) \div 4$

$$\frac{20 + 16x - 28}{4}$$

$$\frac{16x - 8}{4} \Rightarrow 4x - 2$$

⑩ $5(6x - 7) + 4(9x + 2)$

$$30x - 35 + 36x + 8$$

$$\boxed{66x - 27}$$

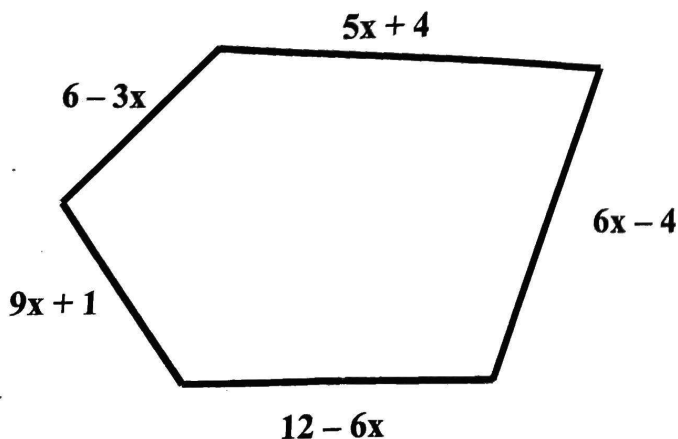
⑪ Sam sells tickets for the Junior High School Talent Show, he sells $(7x - 9)$ \$3 tickets and $(4x + 8)$ \$4 tickets. Write a simplified algebraic expression to represent the money Sam made.

$$3(7x - 9) + 4(4x + 8)$$

$$21x - 18 + 16x + 32$$

$$\boxed{37x + 14}$$

⑫ Find the simplified algebraic expression for the PERIMETER of this irregular polygon.



$$5x + 4 + 6x - 4 + 12 - 6x$$

$$+ 6 - 3x + 9x + 1$$

$$\boxed{11x + 19}$$

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VALIDATE YOUR WORK ✓✓✓