

First name: _____ Last name: _____

Student ID: _____

Algebra 1 Homework

***Show all work for both basic problems and the word problems.**

1. Solve each equation.

1. $13 = h - 66$	2. $36 + a = 99$	3. $8 \div z = 4$
4. $94 - b = 7$	5. $25 = 5g$	6. $127 = 90 + w$

2. Write an equation for each problem. Then solve the equation.

1. Eight times a number is 80.	2. The difference between a number and 56 is 37.
3. A number divided by 9 is 10.	4. A number plus 18 is 51.
5. 72 minus a number is 12.	6. A number multiplied by 3 is 18.

3. Solve each equation.

1. $68 = 7 + 5f$	2. $46 = 2y + 6$
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3. $w + 16 + 9 = 55$	4. $4x + 8 = 9x + 3$
5. $p + 14 - 5 - 13 = 44$	6. $5x - 6 - 3x = 3x - 8 + 2x + 14$

4. Combine like terms.

1) $3a + 4a$

2) $-12b + 6b - 4b$

3) $5a^2 - 6a + 7a^2 + 3a - 2 + 8a + 7$

4) $9x^3 - 7x^2 + 4x^2 - x + 4x^3 - 3x^2$

5) $2h^2 - 7h + 2h^2 - h + 6 + 4h - 9h$

6) $4ab - 6ab + 3a^2b + 4ab^2 + 5a^2b$

5. Expand and simplify.

1. $2(x + 3) - 3(-x + 1)$	2. $3(2x - 1) + 2(x + 3)$	3. $4(x + 3) - 2x(x + 1)$
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6. Expand and simplify. Challenging! Hint: Open inner bracket first.

1. $(x + 2(5 - y)) + 5(x - 3(y + 1))$	2. $(2x + 3(x + 1)) + 4(x + 2)$
3. $m^2(m + 5) + 2m^2$	4. $2(4m - 6) - 5(2m + 3(m + 1))$

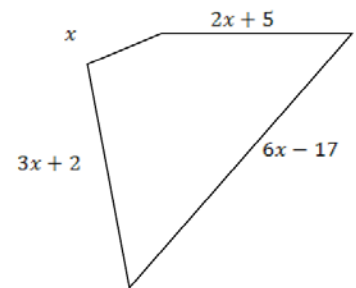
Word problems: Solve all questions using ALGEBRA. Remember to put the let statement and the conclusion sentence.

1. 5,705 and 5,664 added to the difference between 311 and half of a number is 11,513. What is the number?

2. The sum of the digits of a two-digit number is 3. The ones digit is two times the tens digit. If the digits are reversed, the new number is nine more than the number. What is the number?

3. A rectangle's length is seven times its width. The perimeter of the rectangle is one hundred sixty feet. What is the area of the rectangle?

4. Write an expression for the perimeter of the figure below. Then simplify.



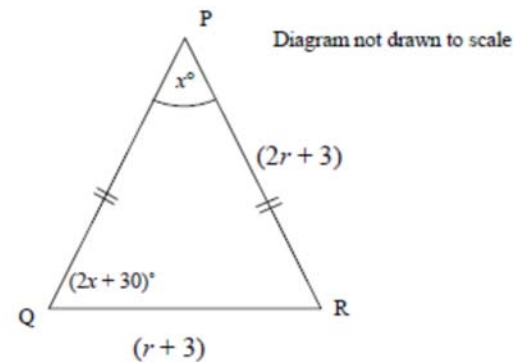
5. PQR is an isosceles triangle with $PQ = PR$, and angle $QPR = x^\circ$.

Angle $PQR = (2x + 30)^\circ$

$PR = (2r + 3)$ cm

$QR = (r + 3)$ cm

(a) Find an expression for the perimeter of the triangle in terms of r , giving your answer in its simplest form.



(b) Work out the value of r , if the perimeter is 49 cm.

(c) Work out the value of x .