

- 12. A: 1 liter \approx 1.06 quarts
- 13. B: by definition
- 14. C: The sum of the measures of the interior angles of a triangle is 180° .
- 15. B: by definition

Test 12

- 1. B: A, C and D are equations whose highest exponent is 2. The quadratic equation works for equations of this nature only.
- 2. B: $\frac{-B \pm \sqrt{B^2 - 4AC}}{2A}$
- 3. C: All quadratic equations have constants A, B and C, which can be substituted into the quadratic formula. Not every quadratic equation can be factored.
- 4. C: Standard form provides A, B and C with the proper sign
- 5. A: $7X^2 + 2X - 1 = 0$
A = 7; B = 2; C = -1
- 6. A: $X^2 - 36 = 0$
 $(X - 6)(X + 6) = 0$
 $X - 6 = 0$ $X + 6 = 0$
 $X = 6$ $X = -6$
- 7. D: $X^2 + 3X + 3 = 0$
A = 1; B = 3; C = 3

$$X = \frac{-(3) \pm \sqrt{(3)^2 - 4(1)(3)}}{2(1)} = \frac{-3 \pm \sqrt{9 - 12}}{2} = \frac{-3 \pm \sqrt{-3}}{2} = \frac{-3 \pm i\sqrt{3}}{2}$$

8. B: $5X^2 + 2X - 1 = 0$
A = 5; B = 2; C = -1

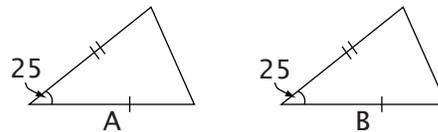
$$X = \frac{-(2) \pm \sqrt{(2)^2 - 4(5)(-1)}}{2(5)} = \frac{-2 \pm \sqrt{4 - (-20)}}{10} = \frac{-2 \pm \sqrt{4 + 20}}{10} = \frac{-2 \pm \sqrt{24}}{10} = \frac{-2 \pm \sqrt{4 \cdot 6}}{10} = \frac{-2 \pm 2\sqrt{6}}{10} = \frac{-1 \pm \sqrt{6}}{5}$$

9. D: $4X^2 + 20X + 25 = 0$
 $(2X + 5)(2X + 5) = 0$
 $2X + 5 = 0$
 $2X = -5$
 $X = -\frac{5}{2}$

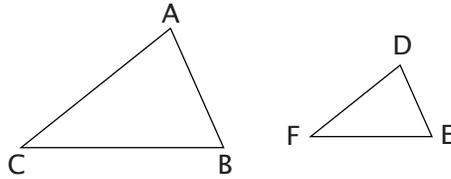
10. C: $4X^2 + 4X - 10 = 0$
A = 4; B = 4; C = -10

$$X = \frac{-4 \pm \sqrt{(4)^2 - 4(4)(-10)}}{2(4)} = \frac{-4 \pm \sqrt{16 - (-160)}}{8} = \frac{-4 \pm \sqrt{16 + 160}}{8} = \frac{-4 \pm \sqrt{176}}{8} = \frac{-4 \pm \sqrt{16 \cdot 11}}{8} = \frac{-4 \pm 4\sqrt{11}}{8} = \frac{-1 \pm \sqrt{11}}{2}$$

- 11. C: \overline{ED}
- 12. B: A rhombus and a parallelogram have 2 pairs of parallel sides. A regular polygon may have any number of sides.
- 13. C: SAS stands for side angle side.



14. D: Knowing that the angles of one triangle are the same as the angles of another triangle proves similarity, not congruence.



15. A: 1 yard \approx .9 meters

Test 13

- B: real, rational, equal
- A: real, rational, unequal
- D: imaginary
- C: real, irrational, unequal
- C: $X^2 + X = X + 9$
 $X^2 - 9 = 0$
 $A = 1; B = 0; C = -9$
 $B^2 - 4AC \Rightarrow (0)^2 - 4(1)(-9) =$
 $0 - (-36) =$
 $0 + 36 = 36$
- D: $X^2 + 5 = 2X$
 $X^2 - 2X + 5 = 0$
 $A = 1; B = -2; C = 5$
 $B^2 - 4AC \Rightarrow (-2)^2 - 4(1)(5) =$
 $4 - 20 = -16$
- B: $X^2 + 9 = -6X$
 $X^2 + 6X + 9 = 0$
 $A = 1; B = 6; C = 9$
 $B^2 - 4AC \Rightarrow (6)^2 - 4(1)(9) =$
 $36 - 36 = 0$

8. A: $X^2 - 32 = -4X$
 $X^2 + 4X - 32 = 0$
 $X = \frac{-(-4) \pm \sqrt{(-4)^2 - 4(1)(-32)}}{2(1)} =$
 $\frac{-4 \pm \sqrt{16 - (-128)}}{2} = \frac{-4 \pm \sqrt{144}}{2} =$
 $\frac{-4 \pm 12}{2} = \frac{-2 \pm 6}{1} = -2 \pm 6$
 $X = 4; X = -8$

9. A: $X^2 + 3X - 6 = 0$
 $X = \frac{-(-3) \pm \sqrt{(-3)^2 - 4(1)(-6)}}{2(1)} =$
 $\frac{-3 \pm \sqrt{9 - (-24)}}{2} = \frac{-3 \pm \sqrt{9 + 24}}{2} =$
 $\frac{-3 \pm \sqrt{33}}{2}$

10. C: $X^2 - 5X = -8$
 $X^2 - 5X + 8 = 0$
 $X = \frac{-(-5) \pm \sqrt{(-5)^2 - 4(1)(8)}}{2(1)} =$
 $\frac{5 \pm \sqrt{25 - 32}}{2} = \frac{5 \pm \sqrt{-7}}{2} = \frac{5 \pm i\sqrt{7}}{2}$

- D: A and B are not true, C is true, but does not prove triangles congruent.
- B: $62,000 \times .75 =$
 $(6.2 \times 10^4)(7.5 \times 10^{-1}) =$
 $(6.2 \times 7.5)(10^4 \times 10^{-1}) =$
 $46.5 \times 10^3 = 4.65 \times 10^4$
- A: similar
- D: They are mirror images of each other.
- A: The figure has been translated or moved over 2 and down 6.

Test 14

- C: $250 - 200 = \$50$ saved
 $WP \times 250 = 50$
 $WP = \frac{50}{250}$
 $WP = \frac{1}{5} = .20 = 20\%$