

Test 11

1) D $(\frac{1}{2})(16) = 8, 8^2 = 64$

2) A $(\frac{1}{2})(-7) = (\frac{-7}{2}), (\frac{-7}{2})^2 = \frac{49}{4}$

3) A $(\frac{1}{2})(\frac{3}{4}) = \frac{3}{8}, (\frac{3}{8})^2 = \frac{9}{64}$

4) B $\sqrt{81} = 9, 9 \times 2 = 18$, so 18X is the middle term

5) C $\sqrt{144} = 12, 12 \times 2 = 24$, so 24X

6) A $\sqrt{\frac{16}{25}} = \frac{4}{5}, \frac{4}{5} \times 2 = \frac{8}{5}$, so $\frac{8}{5}X$

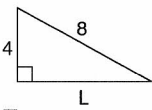
7) D $(X - 7)(X - 7) = X^2 - 14X + 49$

8) B $X^2 + 8X + \quad = 4$
 $X^2 + 8X + 16 = 4 + 16$
 $X^2 + 8X + 16 = 20$
 $(X + 4)^2 = 20$
 $X + 4 = \pm\sqrt{20}$
 $X + 4 = \pm\sqrt{4 \cdot 5}$
 $X + 4 = \pm 2\sqrt{5}$
 $X = -4 \pm 2\sqrt{5}$

9) D $X^2 - 10X = -3$
 $X^2 - 10X + 25 = -3 + 25$
 $(X - 5)^2 = 22$
 $X - 5 = \pm\sqrt{22}$
 $X = 5 \pm \sqrt{22}$

10) C $X^2 + 4X = -8$
 $X^2 + 4X + 4 = -8 + 4$
 $(X + 2)^2 = -4$
 $X + 2 = \pm\sqrt{-4}$
 $X + 2 = \pm 2i$
 $X = -2 \pm 2i$

11) D $4^2 + L^2 = 8^2$
 $L^2 = 64 - 16$
 $L^2 = 48$
 $L = \sqrt{48} = \sqrt{16 \cdot 3} = 4\sqrt{3}$
 (For any 30°-60°-90° triangle, take $\sqrt{3}$ times the length of the short leg to find the length of the long leg)



12) A 1 liter \approx 1 qt

13) B

14) C The sum of the measures of the interior angles of a triangle are 180°.

15) B

Test 12

1) B A, C and D are equations whose highest exponent is equal to 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

6) A $X^2 - 36 = 0$
 $(X + 6)(X - 6) = 0$
 $X = 6, -6$

7) D $X^2 + 3X + 3 = 0$ A = 1, B = 3, C = 3
 $\frac{-3 \pm \sqrt{9 - 4(1)(3)}}{2(1)} = \frac{-3 \pm \sqrt{-3}}{2} = \frac{-3 \pm \sqrt{3}i}{2}$

8) B $5X^2 + 2X - 1 = 0$ A = 5, B = 2, C = -1
 $\frac{-2 \pm \sqrt{4 - 4(5)(-1)}}{2(5)} = \frac{-2 \pm \sqrt{24}}{10} =$
 $\frac{-2 \pm 2\sqrt{6}}{10} = \frac{-1 \pm \sqrt{6}}{5}$

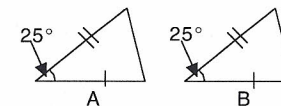
9) D $4X^2 + 20X + 25 = 0$
 $(2X + 5)(2X + 5) = 0$
 $X = \frac{-5}{2}$

10) C $4X^2 + 4X - 10 = 0$ A = 4, B = 4, C = -10
 $\frac{-4 \pm \sqrt{16 - 4(4)(-10)}}{2(4)} = \frac{-4 \pm \sqrt{176}}{8} =$
 $\frac{-4 \pm 4\sqrt{11}}{8} = \frac{-1 \pm \sqrt{11}}{2}$

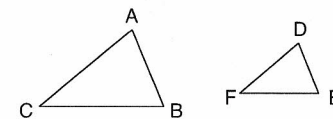
11) C

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 is a little less than a meter