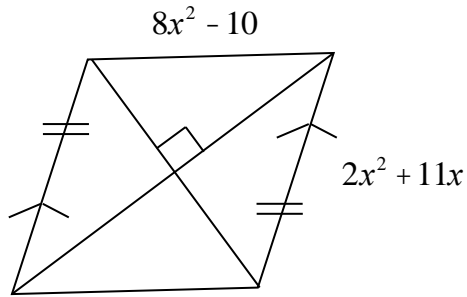


Geometry Accelerated
Chapter 6 Practice Test

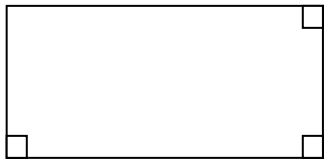
Name: _____

1. Solve for x . Tell the rule(s) used to justify your setup.

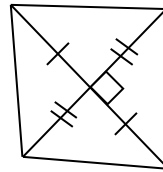


2. Identify the following quadrilaterals as specifically as possible. Give a brief explanation of why you can identify the figure as you did. (**Note: drawings are not to scale!**)

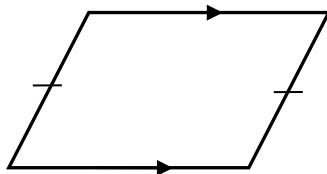
a)



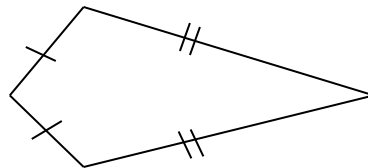
b)



c)



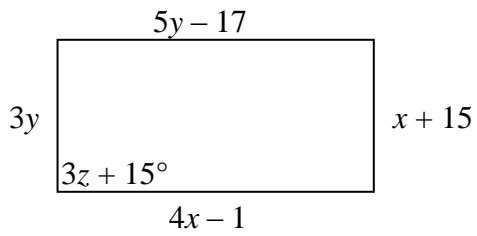
d)



Diagonals are congruent but do not bisect each other

A.M.D.G.

3. Solve for x , y , and z given the figure below is a rectangle.



4. Find the sum of the interior angles, measure of each interior angle, and measure of each exterior angle for the following **regular** polygons.

a) Nonagon

b) 15-gon

c) Decagon

d) 18-gon

e) Octagon

A.M.D.G.

5. Sketch rectangle $ABCD$. If $AC = x^2 + 2x$ and $BD = 35$ cm, find the value(s) of x .

6. Sketch each of the following. Mark all congruent sides and/or angles.

a) A convex heptagon

b) A non-convex (concave), equilateral pentagon

c) An isosceles trapezoid

d) An equiangular quadrilateral that is **not** equilateral

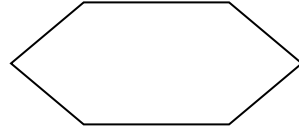
7. A regular polygon has interior angles of 157.5° . Find the number of sides that the regular polygon must have.

A.M.D.G.

8. Name each of the following as specifically as possible given the listed facts.

a) An eight-sided polygon that is equilateral and equiangular: _____

b) The figure illustrated to right: _____



c) A regular quadrilateral: _____

d) A quadrilateral with one pair of sides that are congruent and parallel: _____

e) A three-sided polygon with two sides congruent: _____

9. Determine whether the statements are **TRUE** or **FALSE**. If they are false, *explain* why.

a) All squares are also rectangles.

b) The measure of each interior angle in every pentagon is 108° .

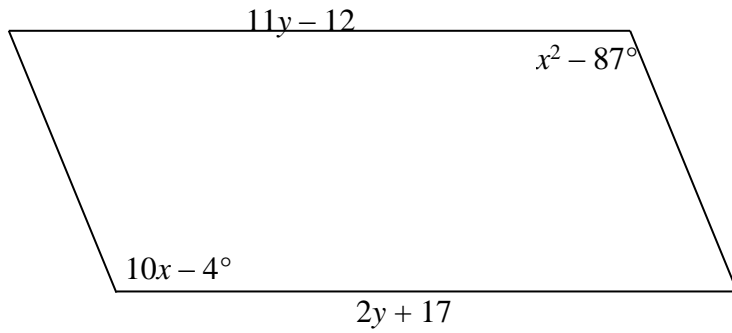
c) A regular polygon is either equilateral or equiangular.

d) If a quadrilateral is a rhombus, then it is also a square.

e) All rectangles are parallelograms

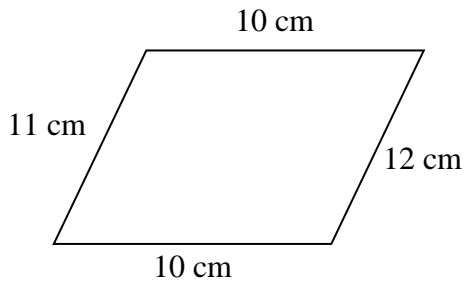
A.M.D.G.

10. Given the parallelogram illustrated below, solve for x and y .

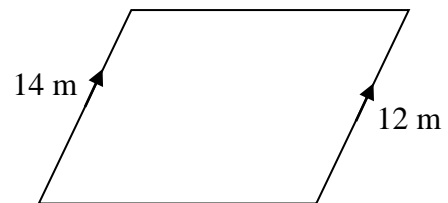


11. Determine if the figures below are parallelograms. If it is a parallelogram, **explain** why. If it is not, **explain** why not.

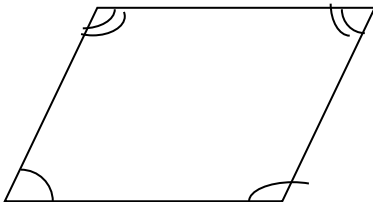
a)



b)



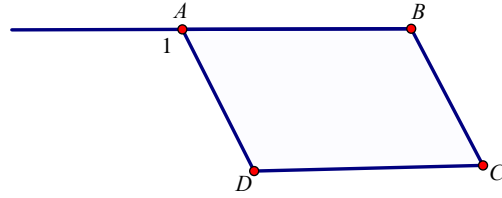
c)



A.M.D.G.

12. Given: $\angle 1 \cong \angle D$ and $\angle 1 \cong \angle B$

Prove: $\square ABCD$



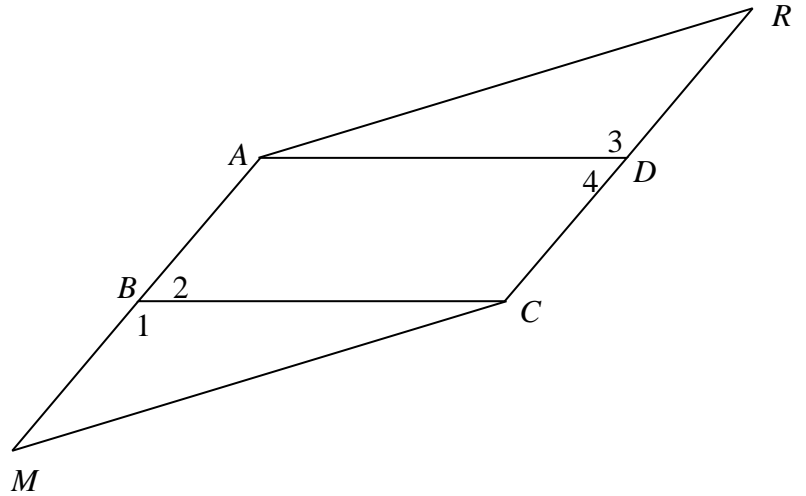
13. Given: $\square ABCD$

B is the midpoint of \overline{AM}

D is the midpoint of \overline{RC}

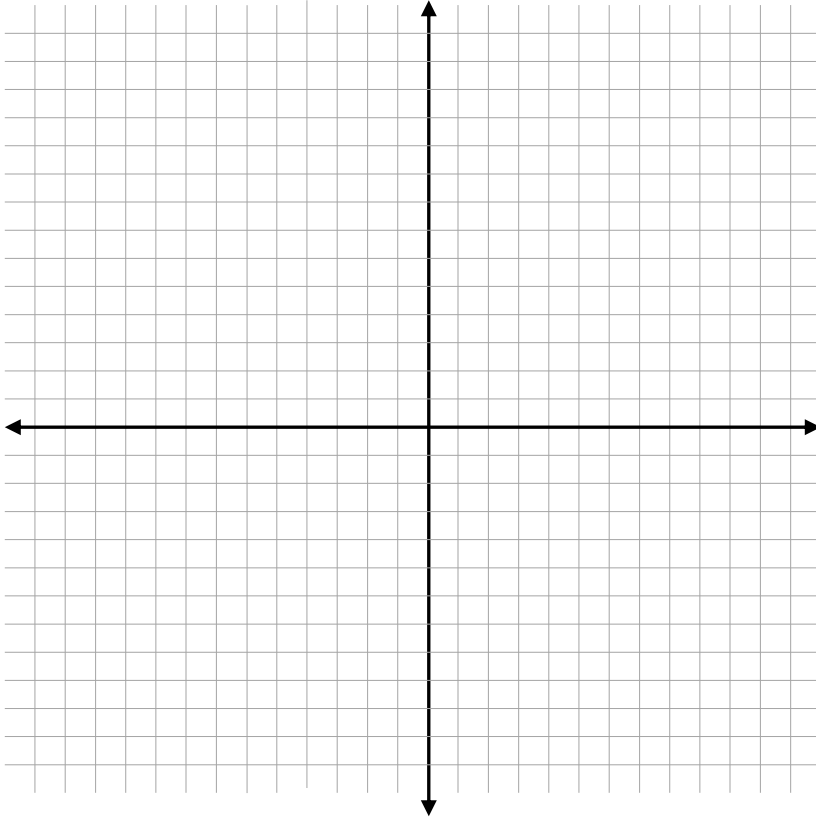
Prove: $\square AMCR$

(Hint: First prove $\square ADR \cong \square CBM$)



A.M.D.G.

14. Prove that the quadrilateral with vertices $A(-6, 1)$, $B(-4, 4)$, $C(2, 0)$, $D(0, -3)$ is a parallelogram. Then determine whether the parallelogram is a rectangle, rhombus, or square. Use coordinate geometry to justify your reasoning.



A.M.D.G.

15. What type of quadrilateral is formed by the vertices $W(-1, 5)$, $X(-5, 1)$, $Y(-1, -1)$, $Z(3, -1)$? Use coordinate geometry to justify your reasoning.

