

Scrap paper is available but write your final solution clearly in the space provided

1. **Application** Name the type of quadrilateral formed when the lines $x = 7$, $2x + 3y - 7 = 0$, $x - 3y = 0$, and $2x + 3y = -10$ intersect.

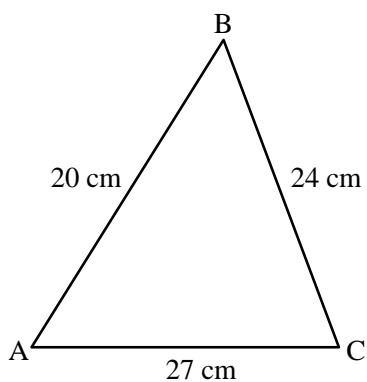
2. **Problem Solving** The width of a rectangle is 3 m less than the length. The area of the rectangle is 10 m^2 . Find the dimensions of the rectangle.

3. State whether each set of ordered pairs represents a function.

a) $\{(0, 5), (1, 4), (2, 3), (3, 2)\}$ b) $\{(2, -3), (3, -2), (4, -1), (5, 0)\}$

c) $\{(3, 7), (5, 9), (7, 7), (9, 7)\}$ d) $\{(-1, 0), (-1, 3), (1, 0), (1, 3)\}$

4. In the given triangle, name the largest angle. The triangle is not drawn to scale.



5. Expand and simplify.

a) $(a-6)^2 + (a+5)^2$

b) $(x-7)^2 + (x-3)(x+3)$

c) $3(t-1)(t+1) - 4(t-1)^2$

d) $5(3d-2)^2 - 3(3-d)^2$

6. **Problem Solving** A small park is enclosed by 180 m of fencing. The area of the park is 2016 m^2 . What are the dimensions of the park?

7. Factor. $8x^3 - 72x^2 + 48x^2 - 432x$

[A] $(8x-10)(8x+7)$

[B] $x(8x-10)(8x+7)$

[C] $8x(x-9)(x+6)$

[D] $8(x-9)(x+6)$

8. State the coordinates of the vertex of the parabola. Then, use a graphing calculator or graphing software to determine any x -intercepts. Round to the nearest tenth, if necessary. $y = -1.8(x-2)^2 + 3$