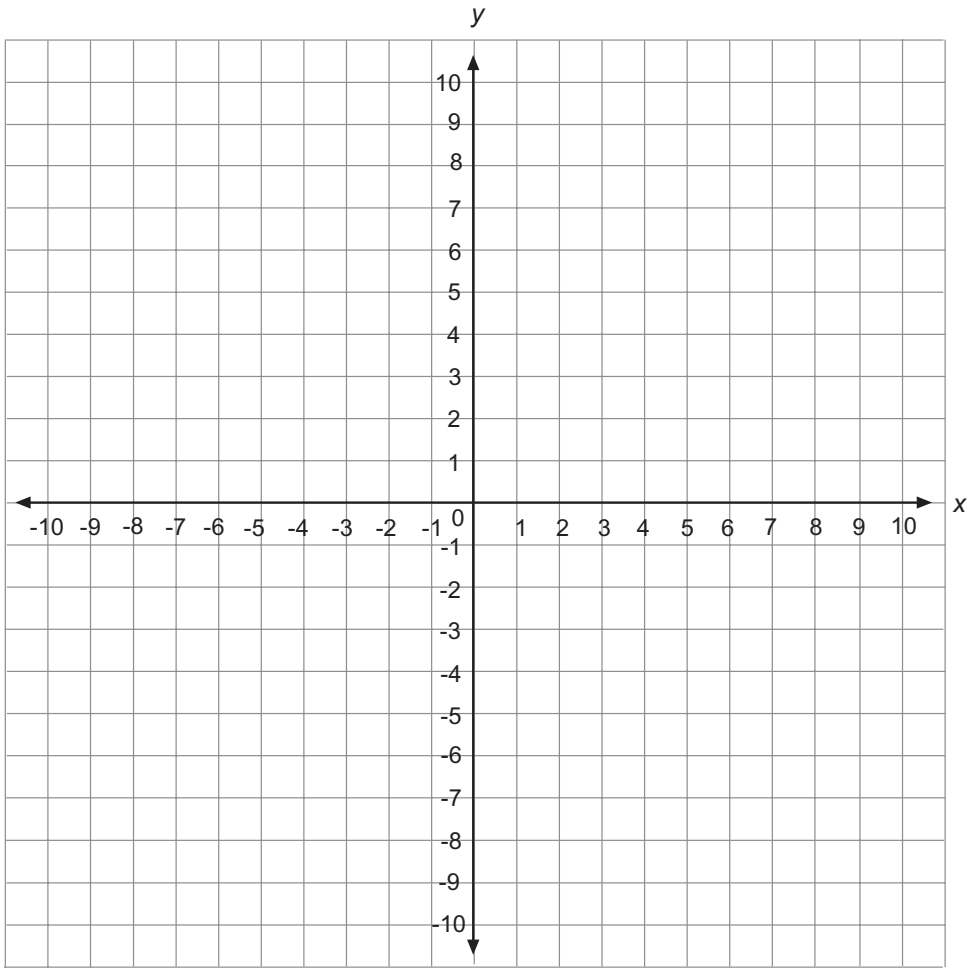
Practice

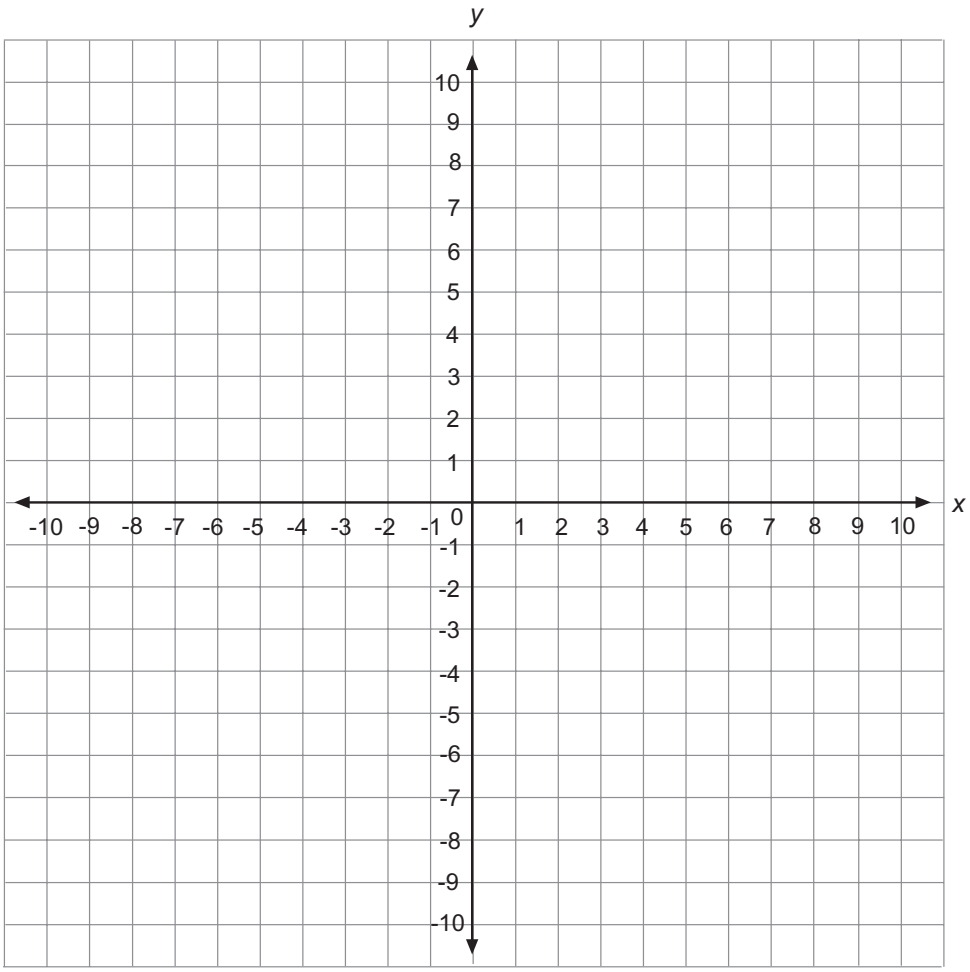
For each of the following:

- *plot the two points*
- *draw the hypotenuse*
- *complete the triangle*
- *use the Pythagorean theorem to find the distance between the given points*
- *show all your work*
- *leave answers in* **simplest radical form**.

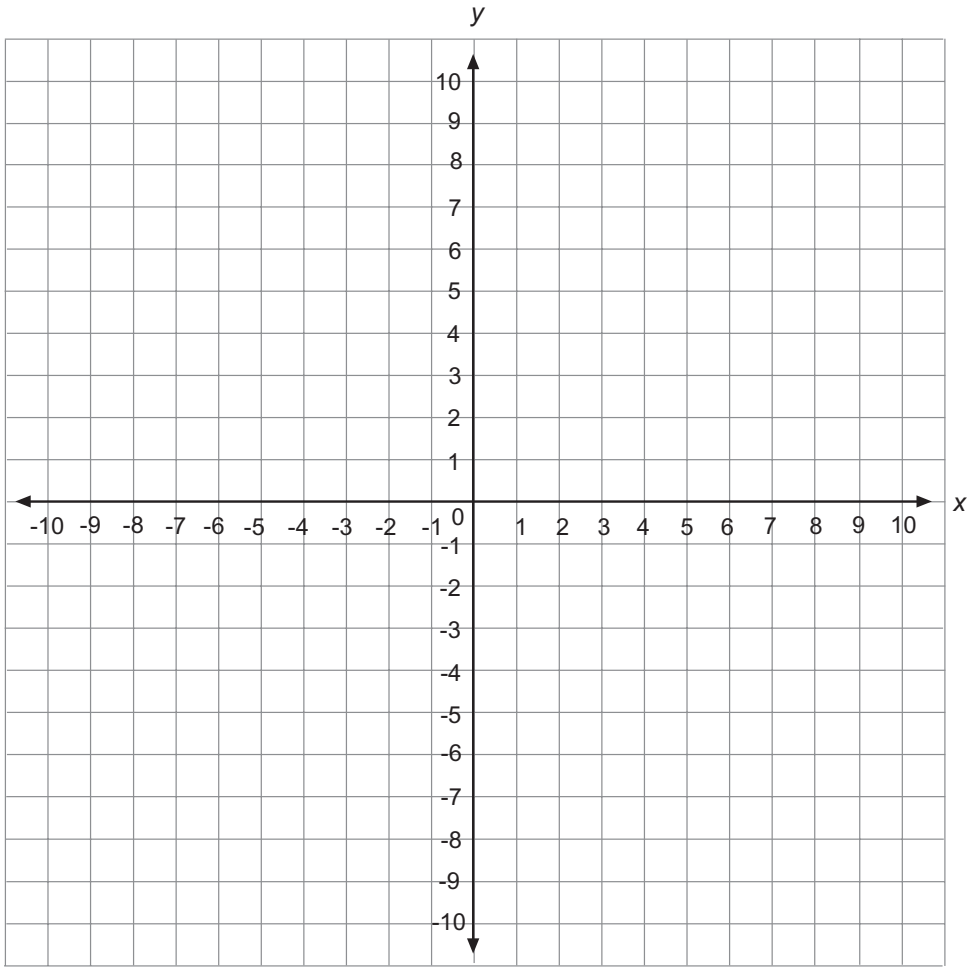
1. (3, 4), (-2, 6)



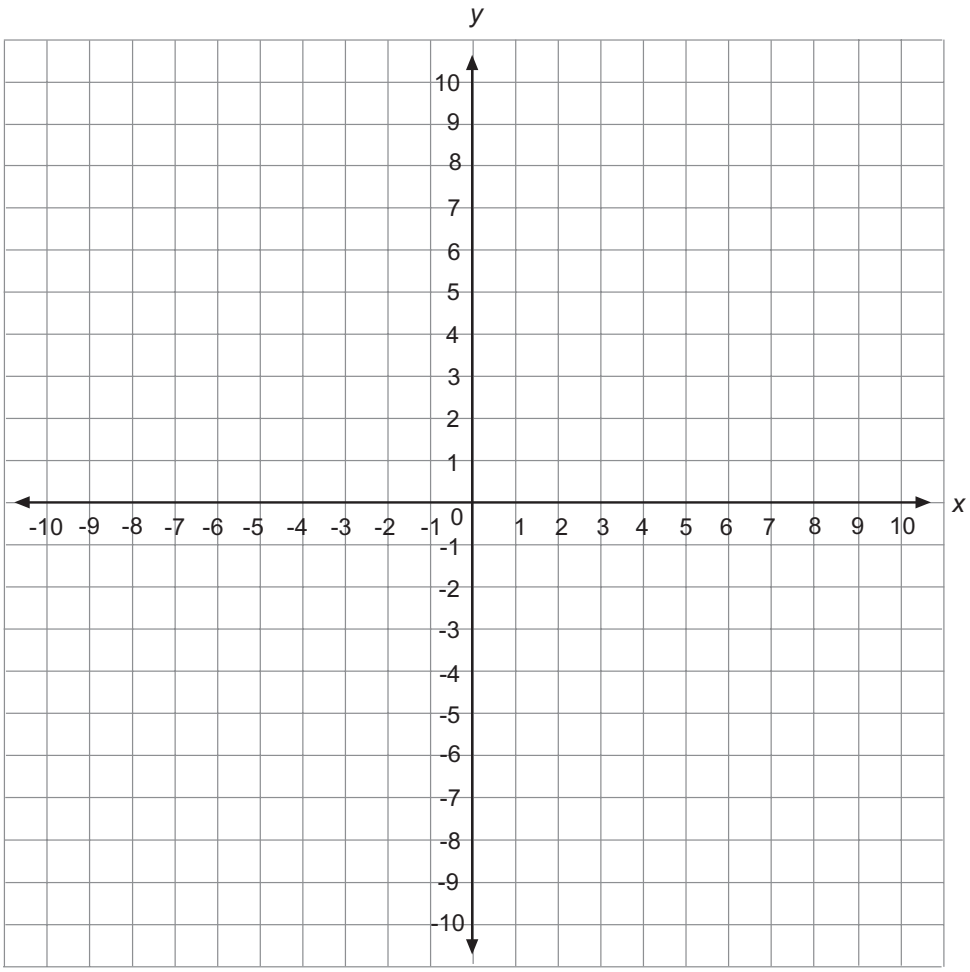
2. (3, -3), (6, 4)



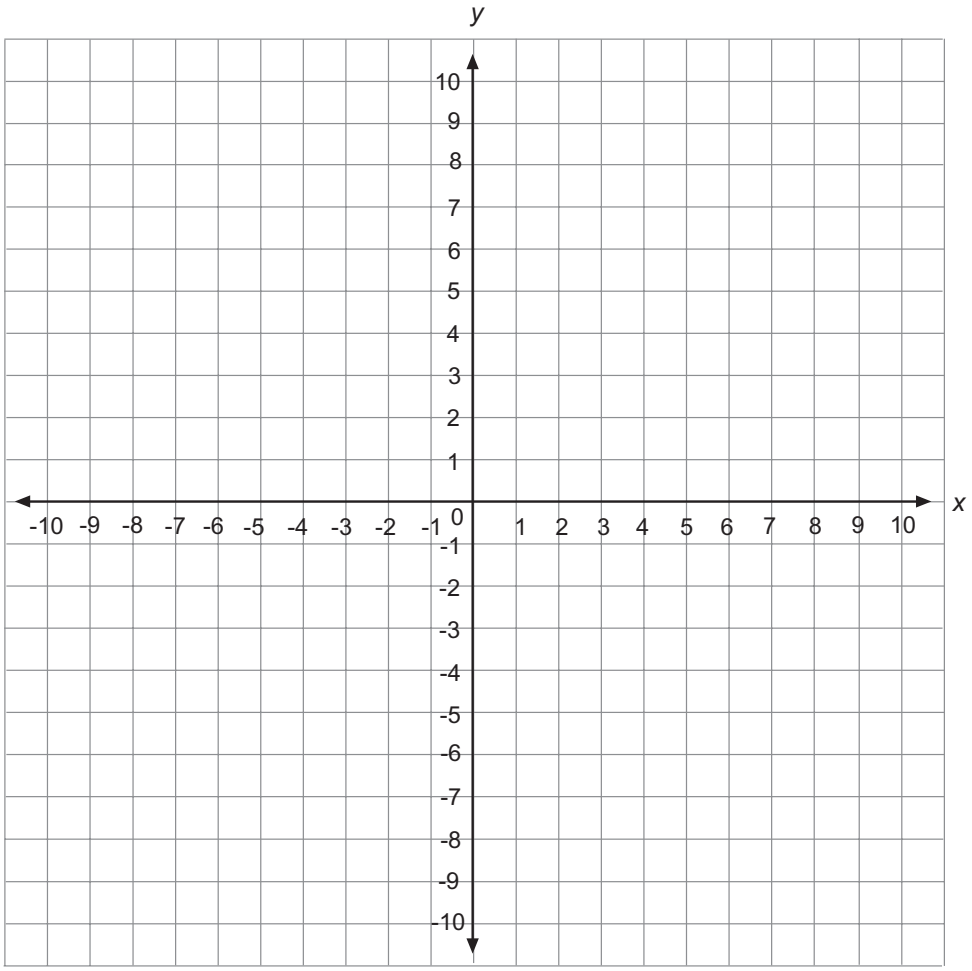
3. (-5, 0), (2, 3)



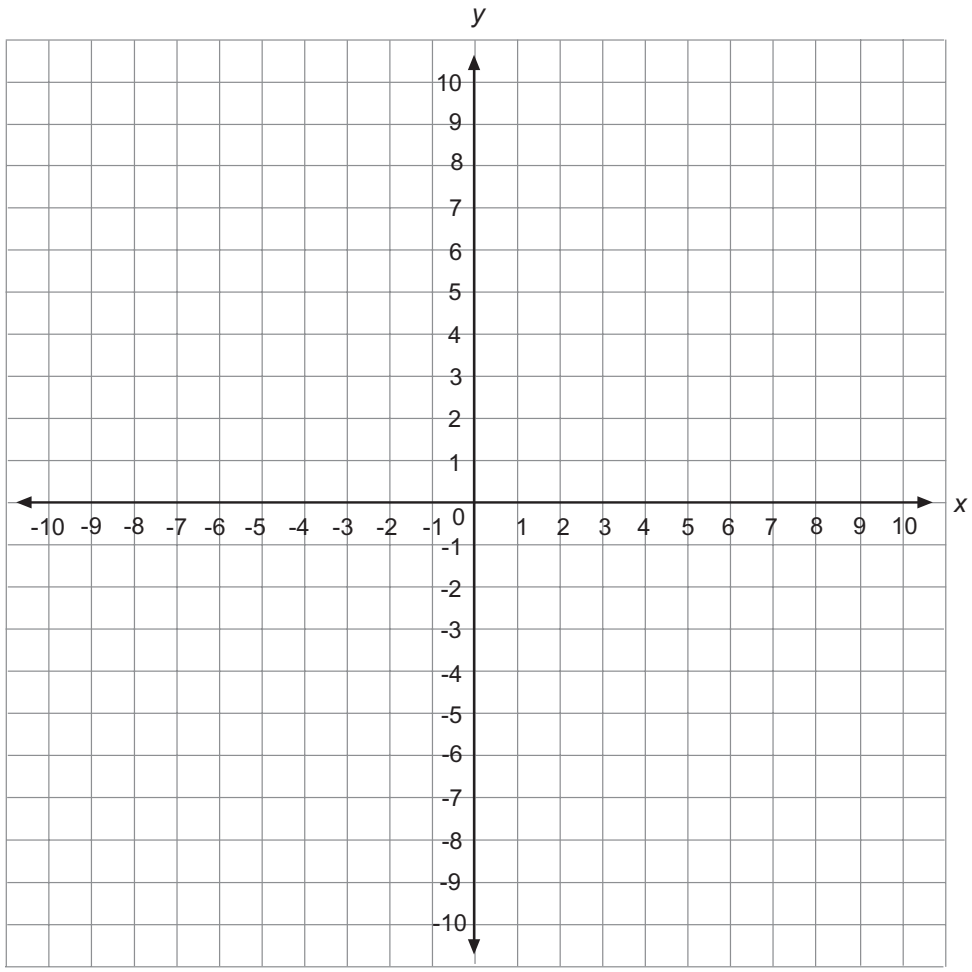
4. (4, -3), (-3, 4)



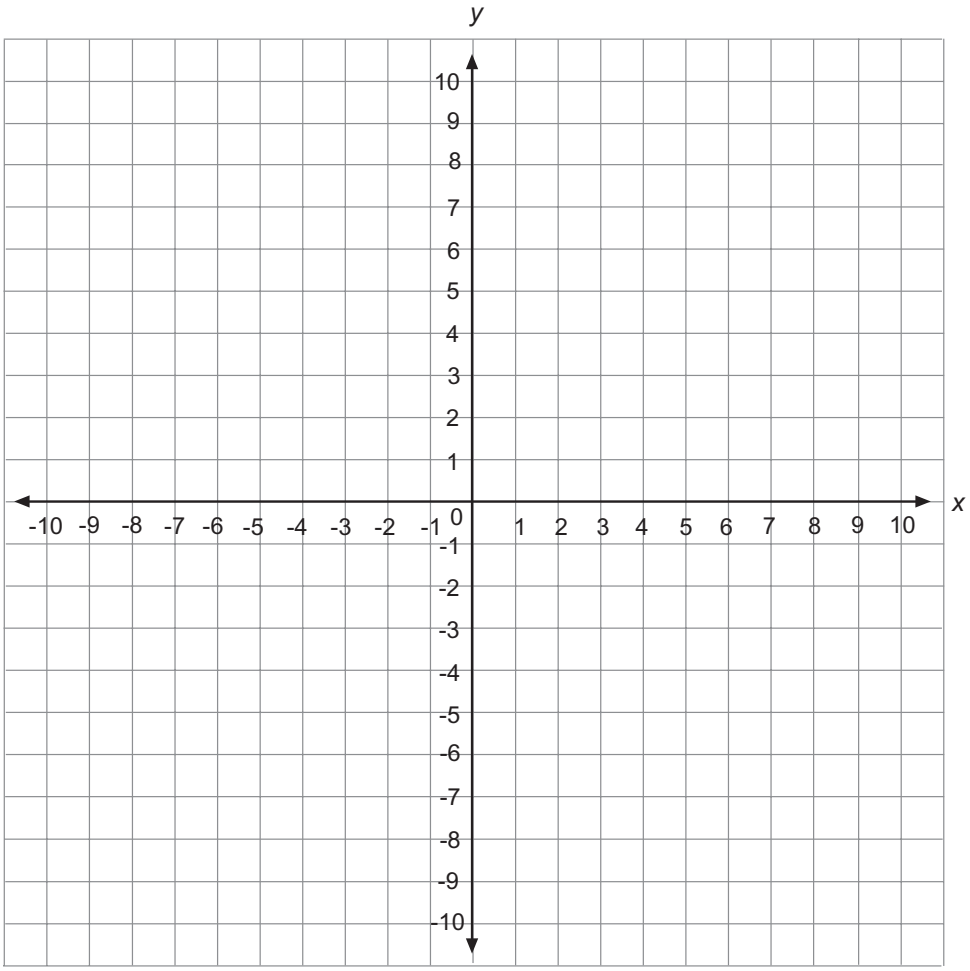
5. (0, 2), (-5, 7)



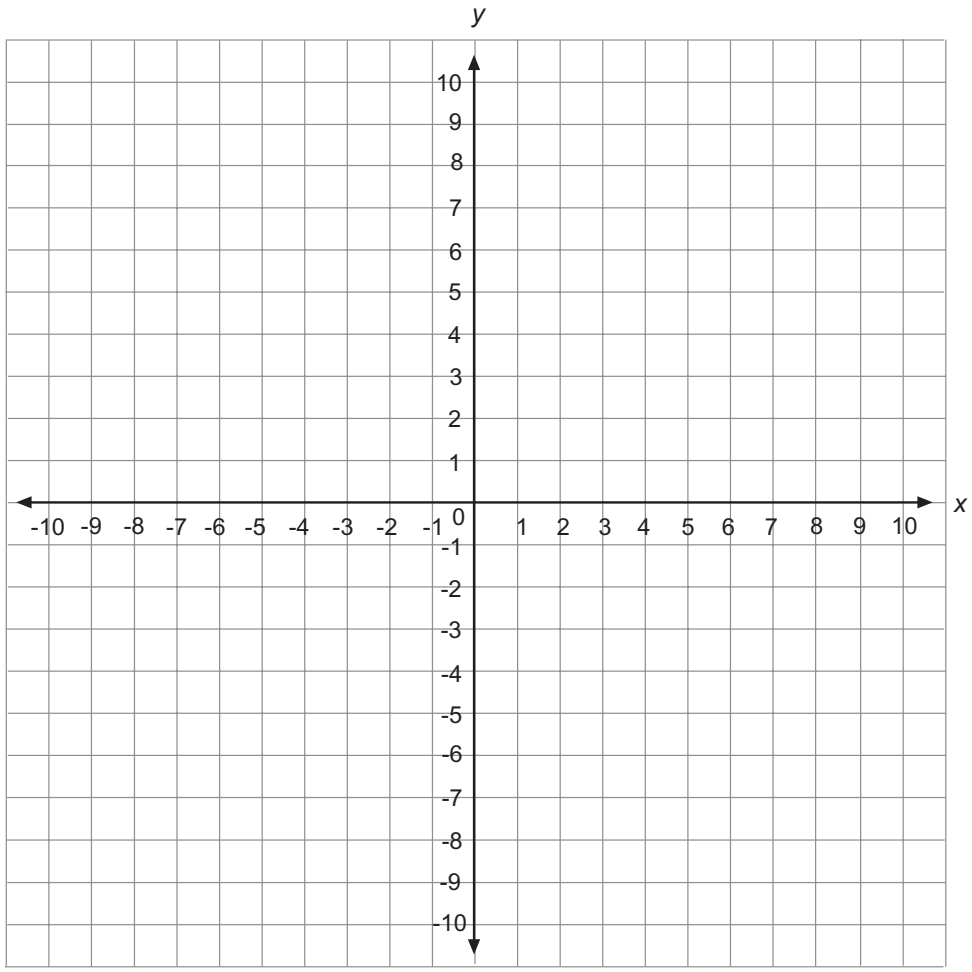
6. (2, 2), (-1, -2)



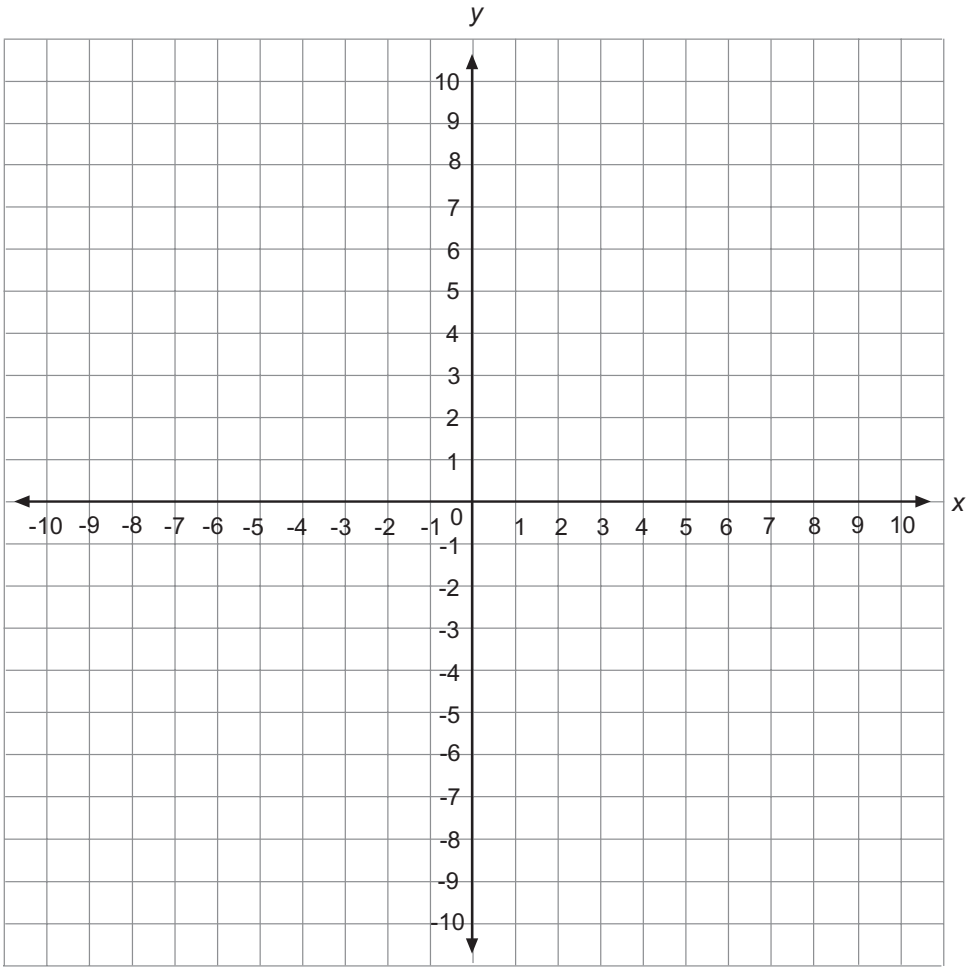
7. (0, 0), (-4, 4)



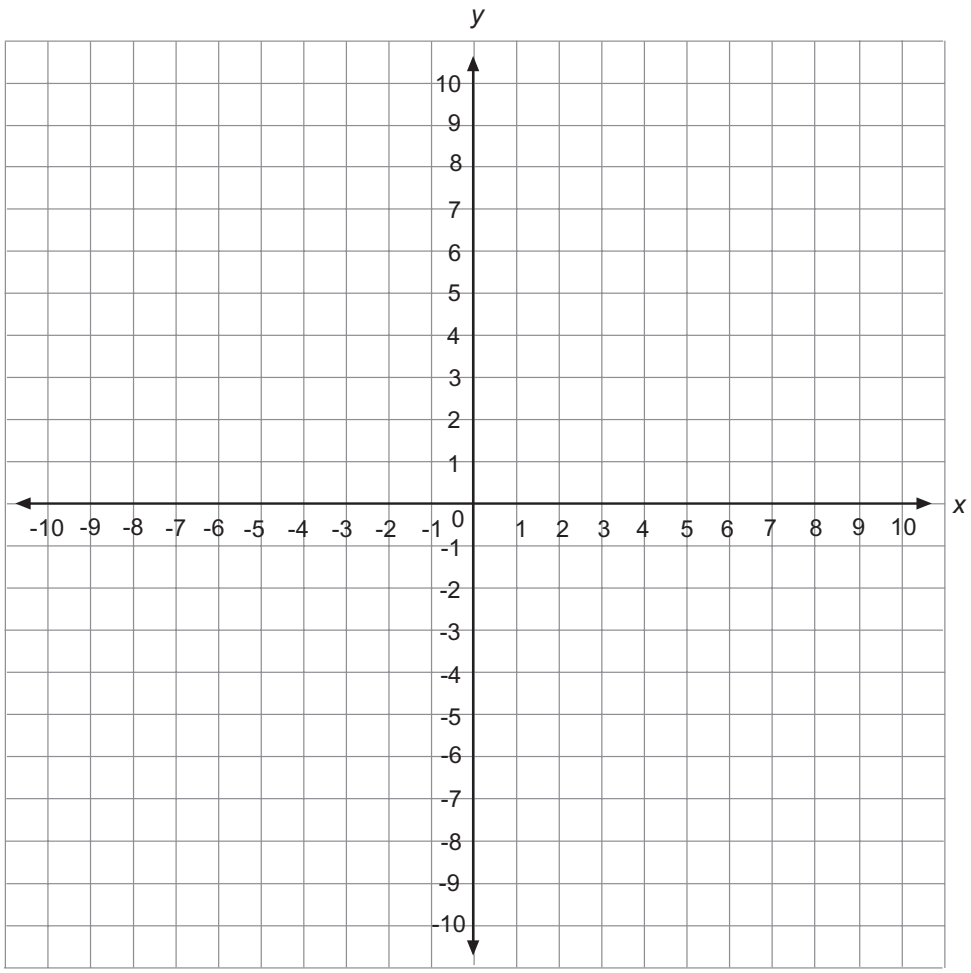
8. (3, 5), (-2, -7)



9. (6, -7), (-2, 8)



10. (-4, 6), (5, -6)



Practice

Use the list below to write the correct term for each definition on the line provided.

absolute value	**horizontal**	**vertical**
coordinate grid or plane	**negative numbers**	***x*-axis**
distance	**positive numbers**	***y*-axis**
graph (of a point)		

_____ 1. parallel to or in the same plane of the horizon

_____ 2. the length of a segment connecting two points

_____ 3. at right angles to the horizon; straight up and down

_____ 4. numbers less than zero

_____ 5. a number's distance from zero (0) on a number line

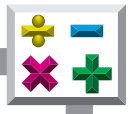
_____ 6. numbers greater than zero

_____ 7. the vertical number line on a rectangular coordinate system

_____ 8. the point assigned to an ordered pair on a coordinate plane

_____ 9. the horizontal number line on a rectangular coordinate system

_____ 10. a two-dimensional network of horizontal and vertical lines that are parallel and evenly-spaced



Practice

Match each definition with the correct term. Write the letter on the line provided.

_____ 1. a one-dimensional measure that is the measurable property of line segments

_____ 2. the longest side of a right triangle; the side opposite the right angle

_____ 3. the square of the hypotenuse (c) of a right triangle is equal to the sum of the square of the legs (a and b)

_____ 4. the edge of a polygon

_____ 5. a polygon with three sides

_____ 6. a triangle with one right angle

_____ 7. the result of adding numbers together

_____ 8. in a right triangle, one of the two sides that form the right angle

_____ 9. the result when a number is multiplied by itself or used as a factor twice

A. hypotenuse

B. leg

C. length (l)

D. Pythagorean theorem

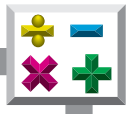
E. right triangle

F. side

G. square (of a number)

H. sum

I. triangle



Practice

Use the list below to complete the following statements.

distance	**line segment**	**perpendicular**
horizontal	**midpoint**	**slope**
hypotenuse	**parallel**	**vertical**

1. The slant or _____ of a line is defined as $\frac{\text{rise}}{\text{run}}$.

2. A line that has no slope is called a _____ line.

3. The _____ between two points is the length of the segment that connects the two points.

4. The _____ is the segment in a right triangle that is opposite the right angle.

5. Lines that are in the same plane and do not intersect are called _____ lines.

6. A line that has zero slope is a _____ line.

7. The point that is located exactly half way between two endpoints of a line segment is called the _____ of a line segment.

8. If two lines intersect to form right angles, they are _____ lines.

9. The figure that contains two defined endpoints and all the points in between is called a _____ .

Practice

Match each definition with the correct term. Write the letter on the line provided.

_____ 1. the square of the hypotenuse (c) of a right triangle is equal to the sum of the square of the legs (a and b), as shown in the equation $c^2 = a^2 + b^2$

_____ 2. two lines, two line segments, or two planes that intersect to form a right angle

_____ 3. an angle whose measure is exactly 90°

_____ 4. two lines in the same plane that are a constant distance apart; lines with equal slopes

_____ 5. two numbers whose product is 1; also called *multiplicative inverses*

_____ 6. to meet or cross at one point

_____ 7. a way of expressing a relationship using variables or symbols that represent numbers

_____ 8. the result of multiplying numbers together

A. formula

B. intersect

C. parallel lines

D. perpendicular (⊥)

E. product

F. Pythagorean theorem

G. reciprocals

H. right angle