Geometry Review Sheet #8
Date Due: **March 12, 2012**

Name Key

1. Which equation represents a line perpendicular to the line whose equation is $2x + 3y = 12$?

$m = -\frac{2}{3}$

(1) $6y = -4x + 12$

(2) $2y = 3x + 6$

(3) $2y = -3x + 6$

(4) $3y = -2x + 12$

2. If p represents "All sides are congruent" and q represents "All angles are congruent," then for which figure will the statement $p \wedge q$ be true?

(1) rectangle

(2) rhombus

(3) square

(4) trapezoid

3. If the coordinates of P are (-2, 7), what are the coordinates of $(D_2 \circ r_{y=x})(P)$?

(1) (4, -14)

(2) (-4, 14)

(3) (-14, 4)

(4) (14, -4)

4. Which statement is *always* true?

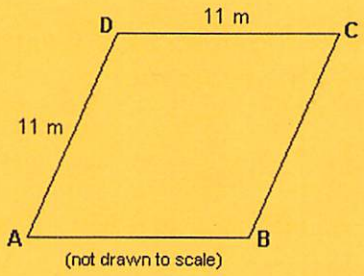
(1) Rhombuses are squares.

(2) Parallelograms are rectangles.

(3) Rectangles are squares.

(4) Squares are rectangles.

5.



A plot of land is in the shape of rhombus $ABCD$ as shown in the accompanying diagram. Which can *not* be the length of diagonal $\overline{AC}$?

(1) 24 m

(2) 11 m

(3) 18 m

(4) 4 m

6. A pair of parallel lines can be the result of which of the following?

(1) The intersection of two planes

(2) The intersection of three planes

(3) The intersection of a plane with two other parallel planes

(4) The intersection of two parallel lines and a plane

7. Given the statement: "A right angle measures 90°." How is this statement written as a biconditional?

(1) If an angle is a right angle, then it measures 90°.

(2) An angle is a right angle if, and only if, it measures 90°.

(3) An angle measures 90° and it is a right angle.

(4) If an angle does not measure 90°, then it is not a right angle.

8 $6^2 + 8^2 = c^2$

$36 + 64 = c^2$

$100 = c^2$

$\boxed{10 = c}$

9. $8x - 20 + 2x + 30 = 180$

$10x + 10 = 180$

$10x = 170$

$\boxed{x = 17}$

10. $\overline{T}$ $-2, 4$

11. $x - 3 = x^2 + 4x - 1$

$0 = x^2 + 3x + 2$

$0 = (x + 2)(x + 1)$

$x = -2$	$x = -1$
$y = -5$	$y = -4$

$(-2, -5)$ $(-1, -4)$

12 $2x + 3x + 60 = 180$

$5x + 60 = 180$

$5x = 120$

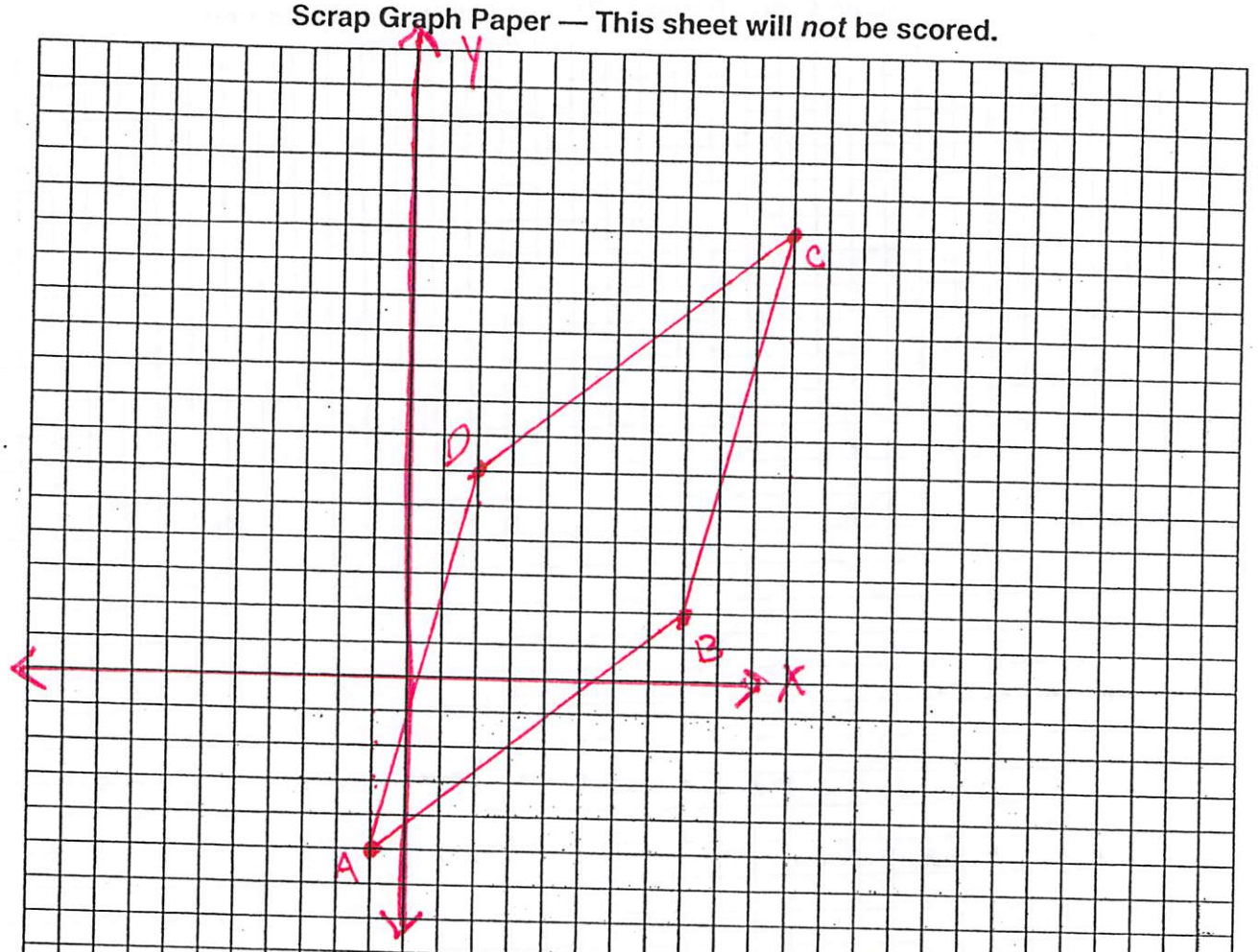
$\boxed{x = 24}$

13. 6

Tear Here

Tear Here

Scrap Graph Paper — This sheet will *not* be scored.



$m\overline{AD} = \frac{11}{3}$ $m\overline{DC} = \frac{7}{9}$ } $\overline{AD} \parallel \overline{BC}$

$m\overline{BC} = \frac{11}{3}$ $m\overline{AB} = \frac{7}{9}$ } $\overline{AB} \parallel \overline{DC}$ } same slope

$\therefore$ ABCD is ||ogram b/c opp sides ||.

$m\overline{AC} = \frac{18}{12} = \frac{3}{2}$

$m\overline{DC} = -\frac{4}{6} = -\frac{2}{3}$ } $\overline{AC} \perp \overline{DC}$ b/c neg. recip slopes.

$\therefore$ ABCD is a rhombus b/c it is a ||ogram with $\perp$ diagonals.