

7.1 Do Now: Linear graphs, isosceles triangles, dilations

1. (a) Graph and label the two equations. Mark their intersection as an ordered pair.

$$y = \frac{2}{3}x - 4$$

$$4x + 3y = 6$$

(4 pts)

- (b) Find the slopes of the two lines.

(2 points)

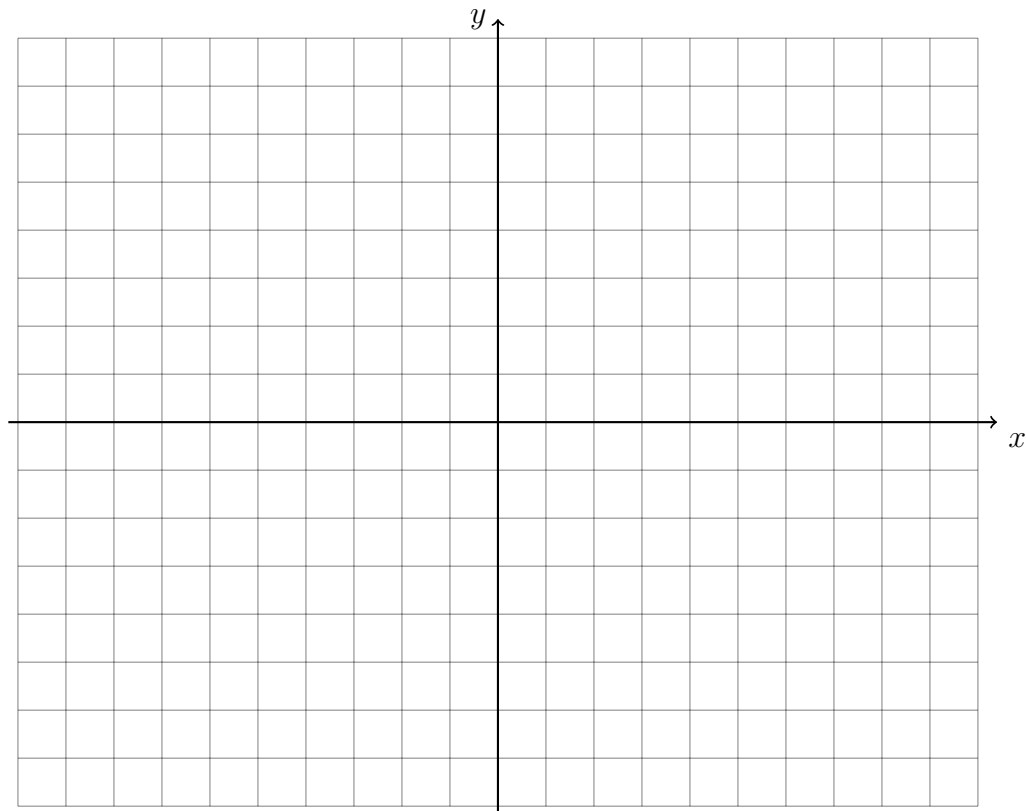
$$m_1 =$$

$$m_2 =$$

- (c) Why is it incorrect to write $m_1 = \frac{2}{3}x$?

(1 point)

- (d) Are the lines parallel, perpendicular, or neither? Justify your answer with an equation or inequality using the slopes. (2 points)



2. Given isosceles $\triangle ABC$ with $\overline{AB} \cong \overline{BC}$.

(the diagram is not to scale)

- (a) Mark the congruent sides & angles of $\triangle ABC$.

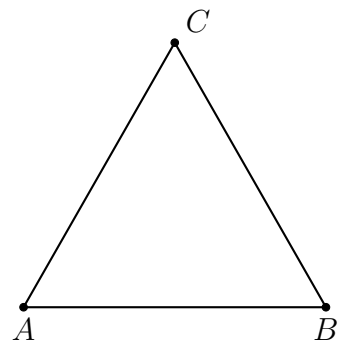
Circle True or False:

- (b) True False $\angle A \cong \angle B$

- (c) True False $\angle A \cong \angle C$

- (d) True False $\angle B \cong \angle C$

- (e) T F $m\angle A + m\angle B + m\angle C = 180$



3. Given isosceles $\triangle RSU$ with $\overline{RS} \cong \overline{RU}$.

(the diagram is not to scale)

- (a) Mark the congruent sides & angles of $\triangle RSU$.

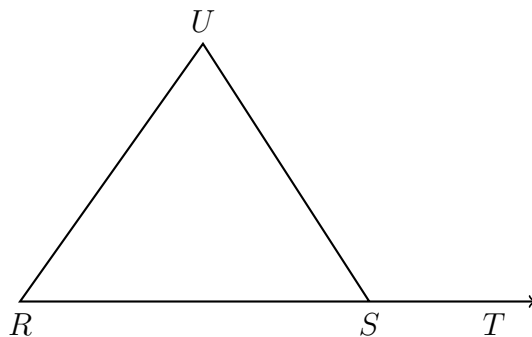
Circle True or False:

- (b) True False $\angle R \cong \angle RSU$

- (c) True False $\angle R \cong \angle U$

- (d) True False $\angle RSU \cong \angle U$

- (e) True False $\angle R \cong \angle TSU$



- (f) True False $\angle RSU \cong \angle TSU$

- (g) True False $m\angle RSU + m\angle TSU = 180$

- (h) True False $m\angle R + m\angle RSU + m\angle U = 180$

Name:

4. Given $\triangle ABC$ is isosceles but not equilateral with $\angle B \cong \angle C$. (not draw to scale)

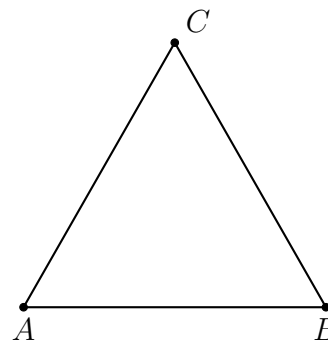
(a) Mark the congruent sides & angles of $\triangle ABC$.

Circle True or False:

(b) True False $\overline{AB} \cong \overline{BC}$

(c) True False $\overline{AB} \cong \overline{AC}$

(d) True False $\overline{BC} \cong \overline{AC}$

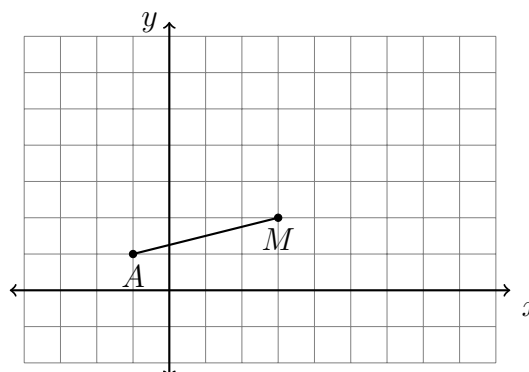


5. $A(-1, 1)$ is one endpoint of \overline{AB} . The segment's midpoint is $M(3, 2)$, as shown below.

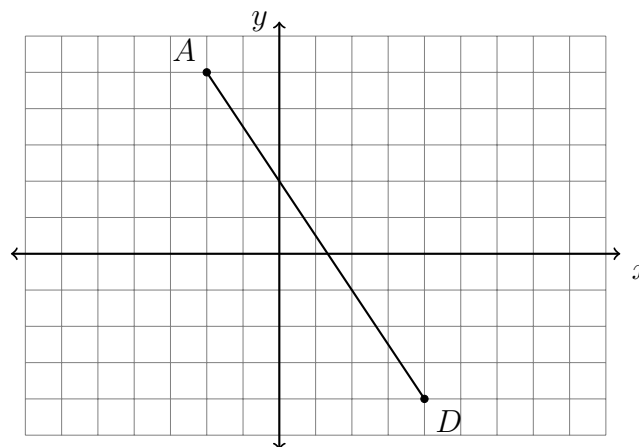
(a) What translation maps

$A(-1, 1) \rightarrow M(3, 2)$?

(b) Find the other endpoint, B .



6. In the diagram below, \overline{AD} has endpoints with coordinates $A(-2, 5)$ and $D(4, -4)$. What points B and C trisect \overline{AD} into three congruent segments? Mark and label them on the graph. State their coordinates.



7. A dilation centered at A maps $\triangle ABC \rightarrow \triangle ADE$. Given the sides of the preimage, $AC = 6$, $BC = 4$, $AB = 8$, and of $DE = 12$ find the scale factor k and the lengths AD and AE . Then find CE and BD .

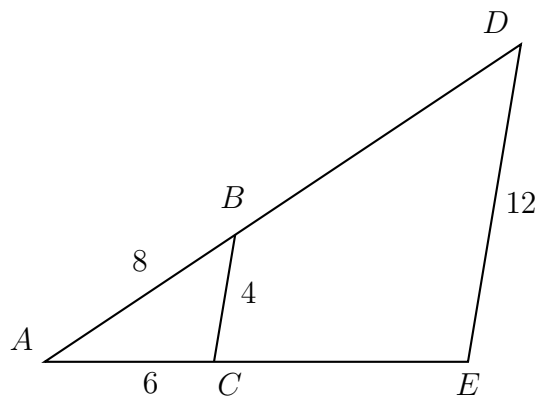
(a) $k =$

(b) $AD =$

(c) $AE =$

(d) $CE =$

(e) $BD =$



8. Given $\triangle ABP \sim \triangle JKP$ as shown below. $AB = 9.6$, $AP = 12.0$, $BP = 6.3$, and $KP = 12.6$. Find JK .

