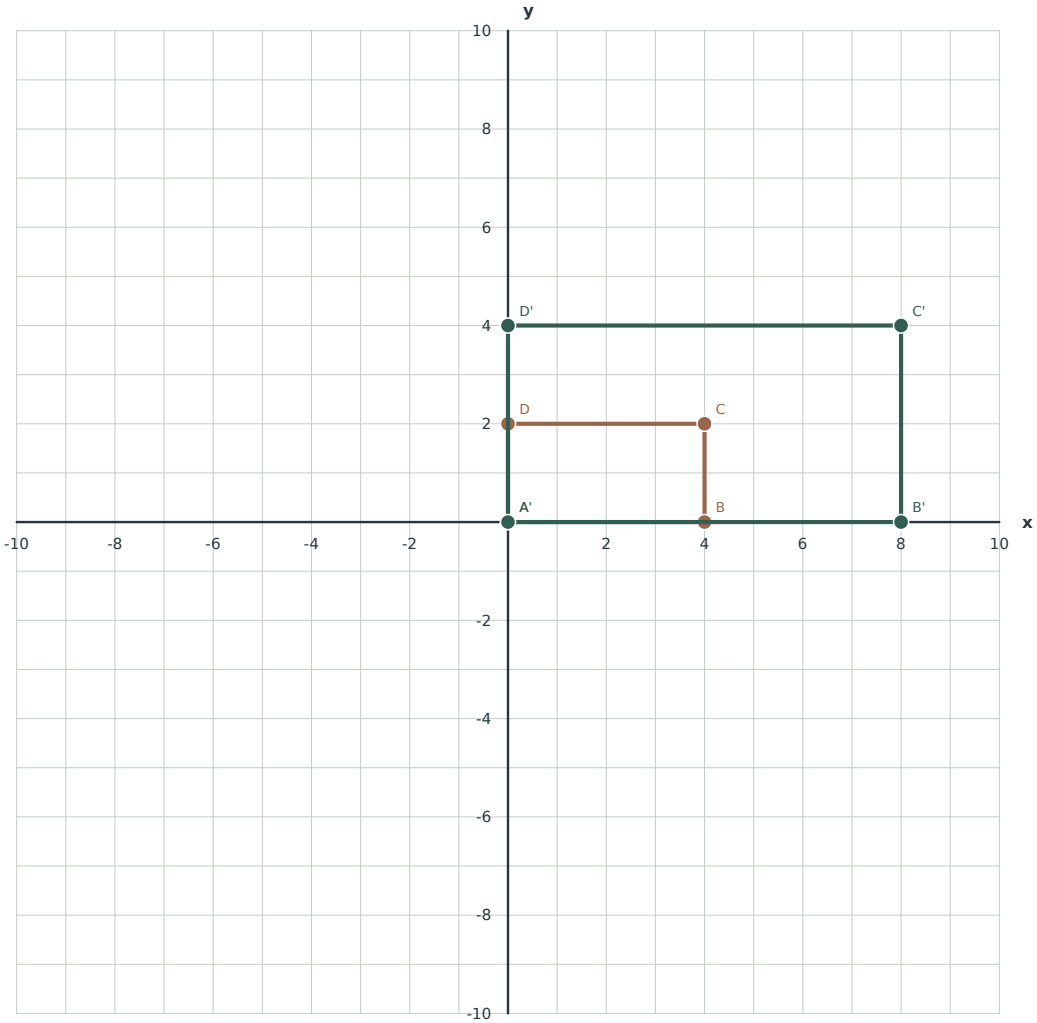
Double a rectangle

Vertices in order: A(0, 0); B(4, 0); C(4, 2); D(0, 2).

Dilate about (0, 0) by scale factor 2. Draw and label the image. State the length and area ratios.

ANSWER / worked construction



Brown: original / Green: transformed image (answer only)

Dilate about (0, 0) by scale factor 2.

Image vertices: A(0, 0); B(8, 0); C(8, 4); D(0, 4).

Length ratio = 2; area ratio = 4. Area: 8 to 32 square units.

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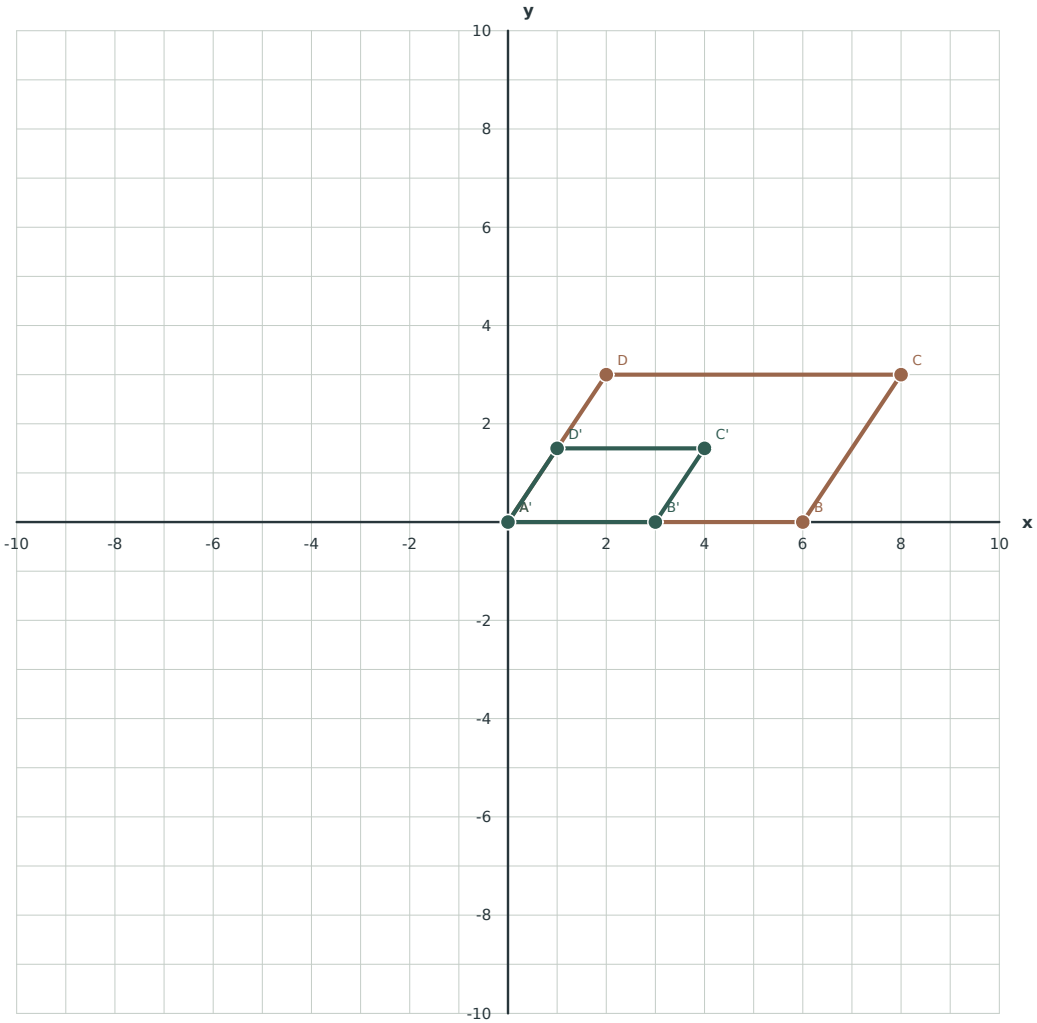
Half-size parallelogram

Vertices in order: A(0, 0); B(6, 0); C(8, 3); D(2, 3).

Dilate about (0, 0) by scale factor 1/2. Draw and label the image. State the length and area ratios.

ANSWER / worked construction



Brown: original / Green: transformed image (answer only)

Dilate about (0, 0) by scale factor 1/2.

Image vertices: A(0, 0); B(3, 0); C(4, 3/2); D(1, 3/2).

Length ratio = 1/2; area ratio = 1/4. Area: 18 to 9/2 square units.

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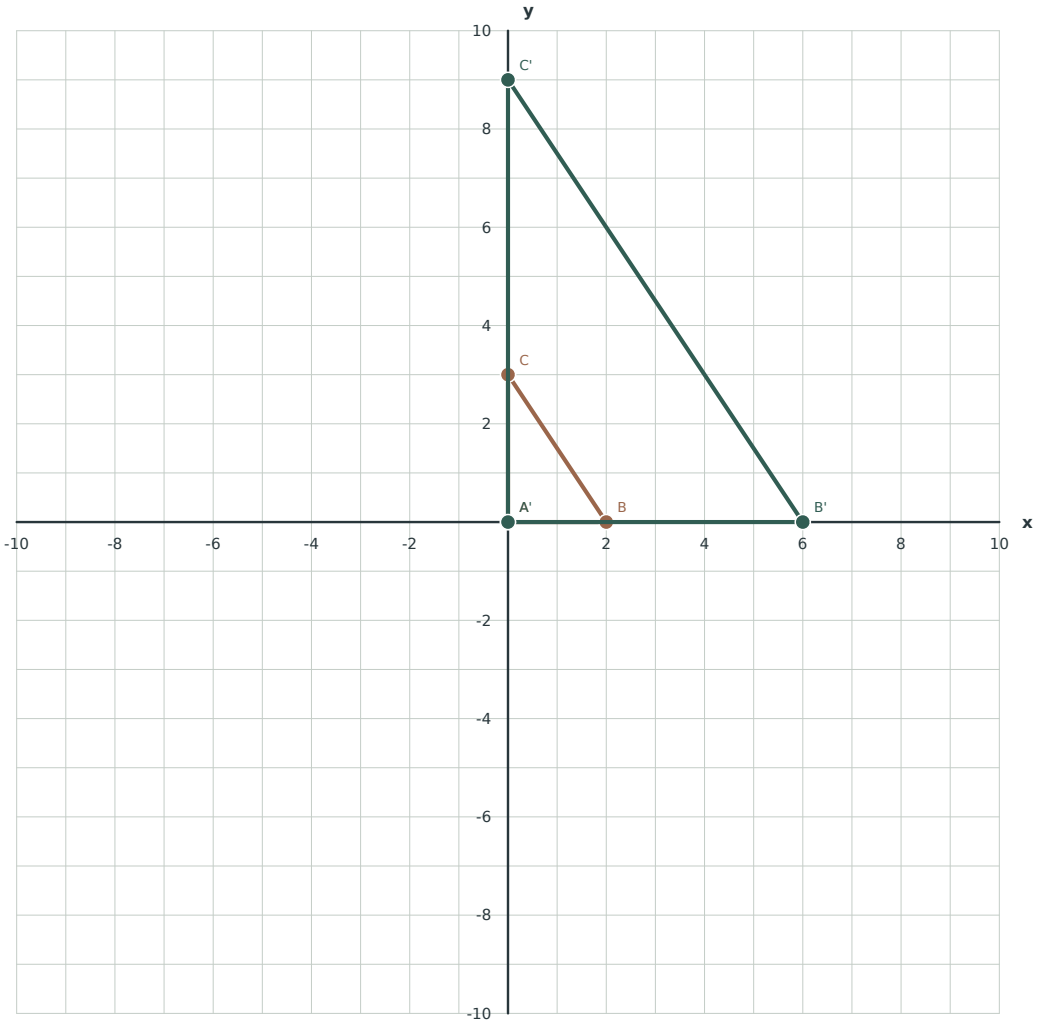
Triple a triangle

Vertices in order: A(0, 0); B(2, 0); C(0, 3).

Dilate about (0, 0) by scale factor 3. Draw and label the image. State the length and area ratios.

ANSWER / worked construction



Brown: original / Green: transformed image (answer only)

Dilate about (0, 0) by scale factor 3.

Image vertices: A(0, 0); B(6, 0); C(0, 9).

Length ratio = 3; area ratio = 9. Area: 3 to 27 square units.

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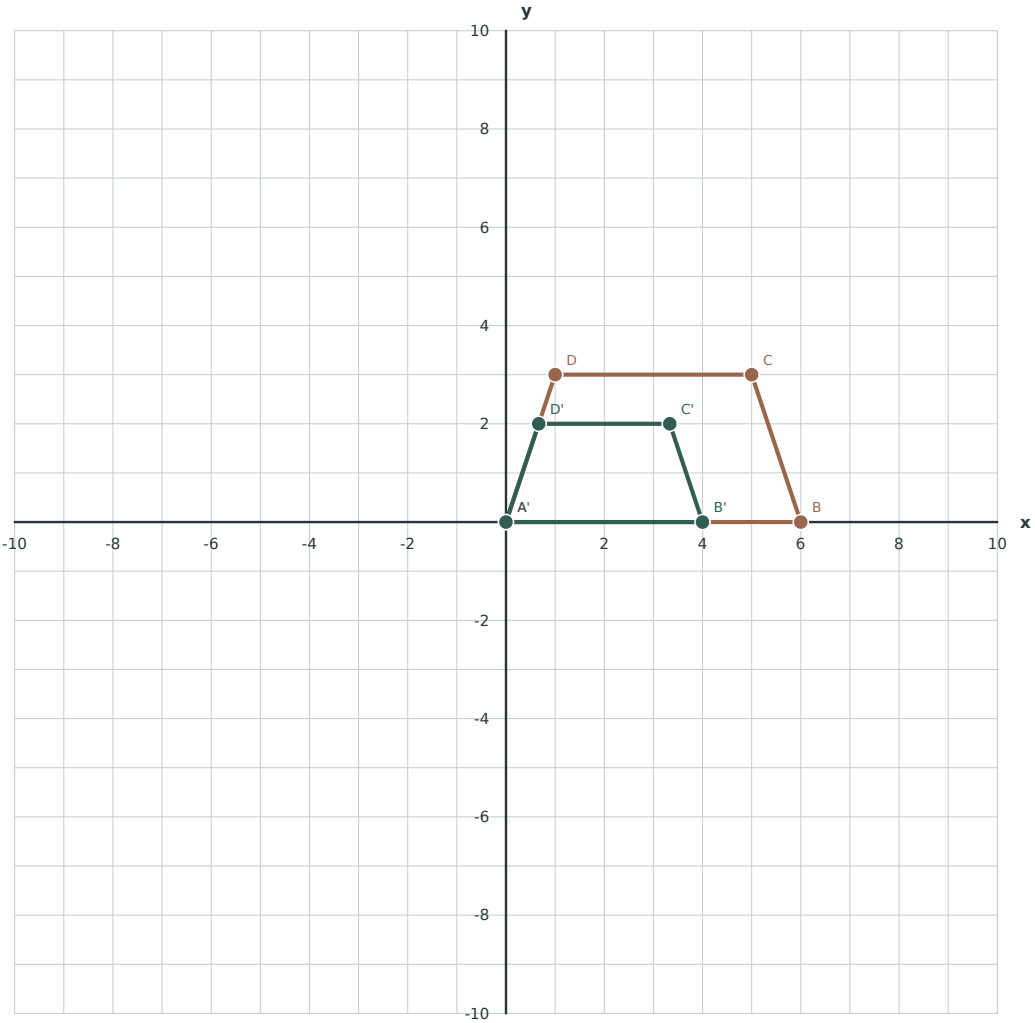
Two-thirds trapezoid

Vertices in order: A(0, 0); B(6, 0); C(5, 3); D(1, 3).

Dilate about (0, 0) by scale factor 2/3. Draw and label the image. State the length and area ratios.

ANSWER / worked construction



Brown: original / Green: transformed image (answer only)

Dilate about (0, 0) by scale factor 2/3.

Image vertices: A(0, 0); B(4, 0); C(10/3, 2); D(2/3, 2).

Length ratio = 2/3; area ratio = 4/9. Area: 15 to 20/3 square units.

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