

6K / Classroom answers

Teacher copy. Accept equivalent exact forms and valid alternative reasoning.

1. Find an inverse model

$$k = 60; y = \frac{60}{x}.$$

- $k = xy = 4 \times 15 = 60.$
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2. Reverse an inverse model

$$x = 7.5.$$

- $8x = 60$ gives $x = \frac{60}{8} = 7.5.$
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3. Read an inverse graph

$$k = 36; y = \frac{36}{x}.$$

- $k = xy = 4 \times 9 = 36.$
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4. Scale an inverse relationship

$y = 4$. The value of y is divided by 3, from 12 to 4.

- At $x = 9$, $y = \frac{36}{9} = 4$. At $x = 3$, $y = 12$.
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5. Interpret signed branches

$k = -12$; $y = -\frac{12}{x}$. The branches are in quadrants II and IV.

- $k = (-3)(4) = -12$. The coordinates have opposite signs.
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6. Explain axes and domain

Neither axis is crossed; $x = 0$ is excluded.

- Every point satisfies $xy = -12$. On either axis, $xy = 0$, so it cannot lie on B. Division by zero excludes $x = 0$.
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6K / Homework answers

Teacher copy. Accept equivalent exact forms and valid alternative reasoning.

1. Find an inverse model

$$k = 84; y = \frac{84}{x}.$$

- $k = xy = 6 \times 14 = 84.$
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2. Reverse an inverse model

$$x = 7.$$

- $12x = 84$ gives $x = 7.$
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3. Read an inverse graph

$$k = 24; y = \frac{24}{x}.$$

- $k = xy = 3 \times 8 = 24.$
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4. Scale an inverse relationship

$y = 3$. Multiplying x by 4 divides y by 4, from 12 to 3.

- At $x = 8$, $y = \frac{24}{8} = 3$. At $x = 2$, $y = 12.$
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5. Interpret signed branches

$k = 18$; $y = \frac{18}{x}$. The branches are in quadrants I and III.

- $k = (-3)(-6) = 18$. The coordinates have the same sign.
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6. Explain axes and domain

No. Neither axis contains a point of B, and $x = 0$ is excluded.

- The model has $xy = 18$. If either coordinate were zero, the product would be zero instead.
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