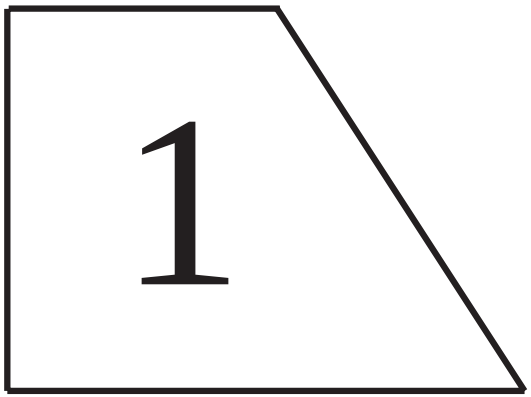

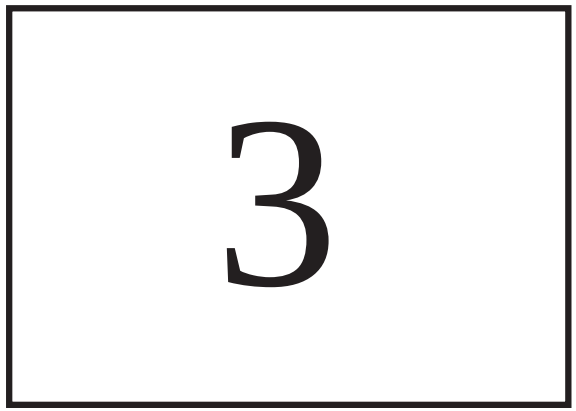

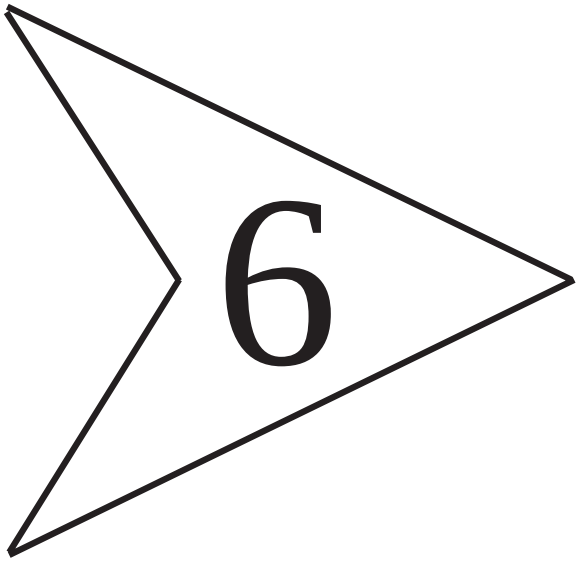

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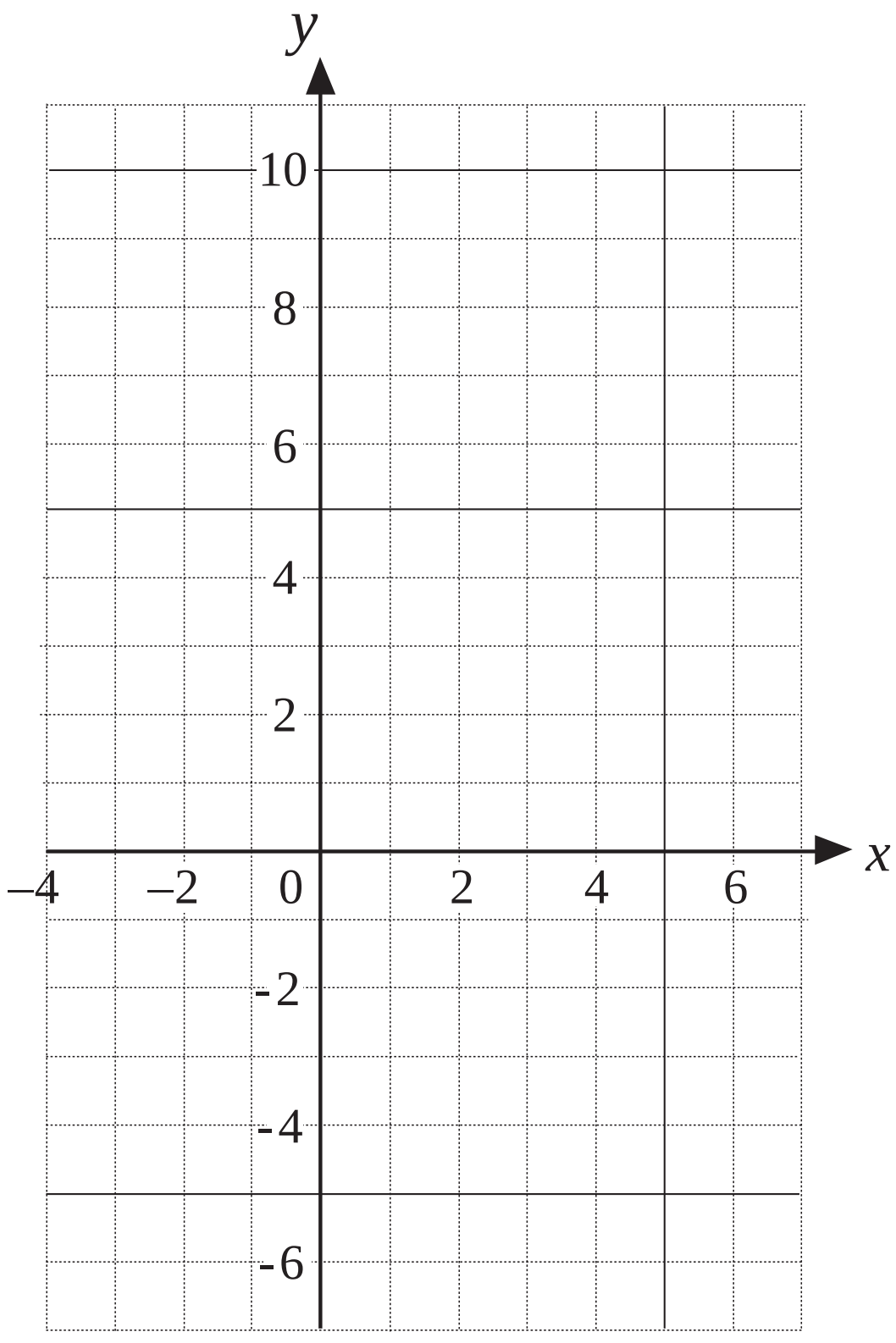
x	-3	-2	-1	0	1	2	3	4	5	6
$2 \times x - 1$										



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a) the area of a rectangle with sides a and b

b) the perimeter of a rectangle with sides e and f

c) the area of a square with side c

d) the perimeter of a square with side t

e) the area of a square with diagonal e

f) the surface area of a cube with edge c

g) the volume of a cube with edge a

h) the volume of a cuboid with edges a, b, c.

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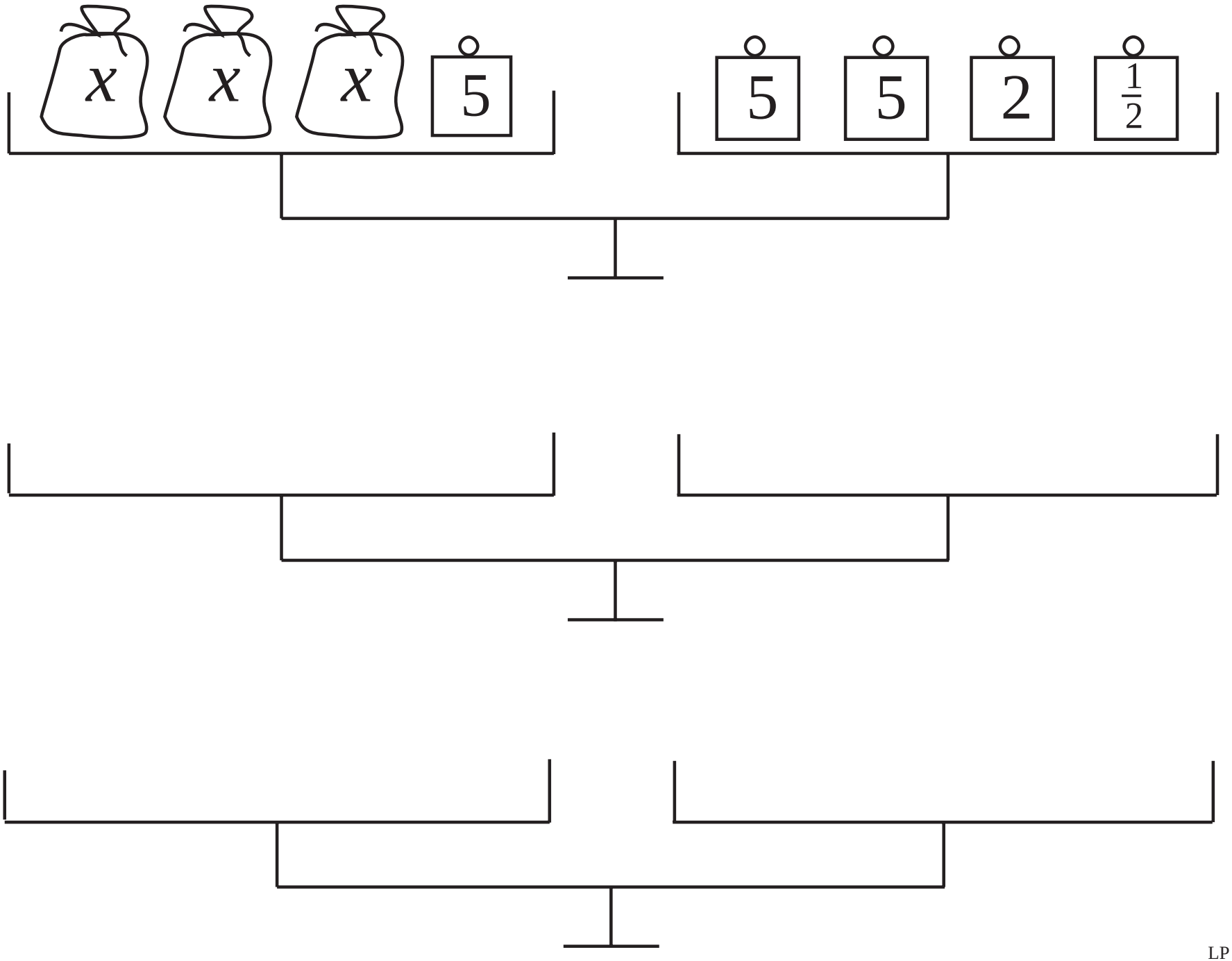
a)



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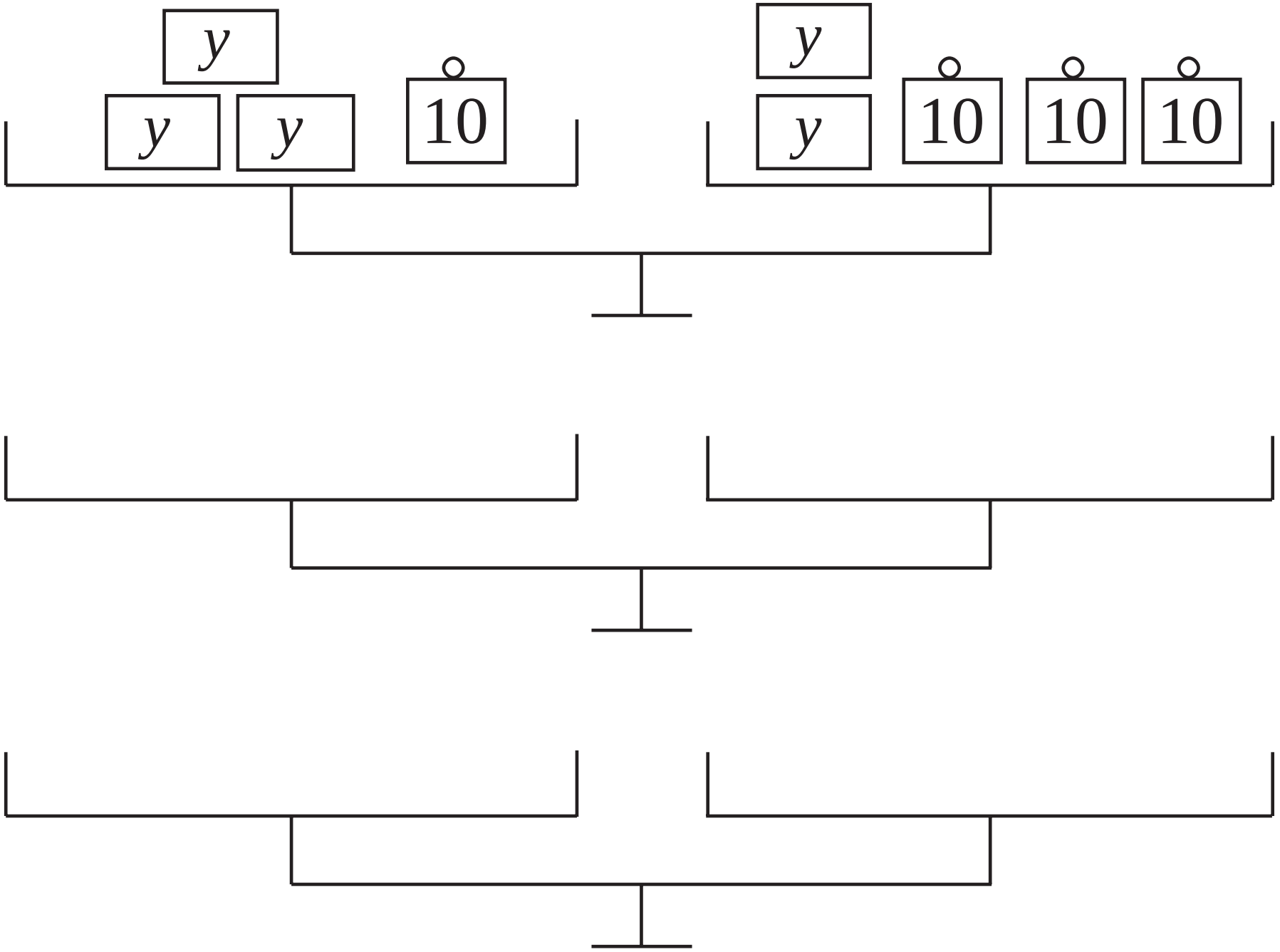
b)



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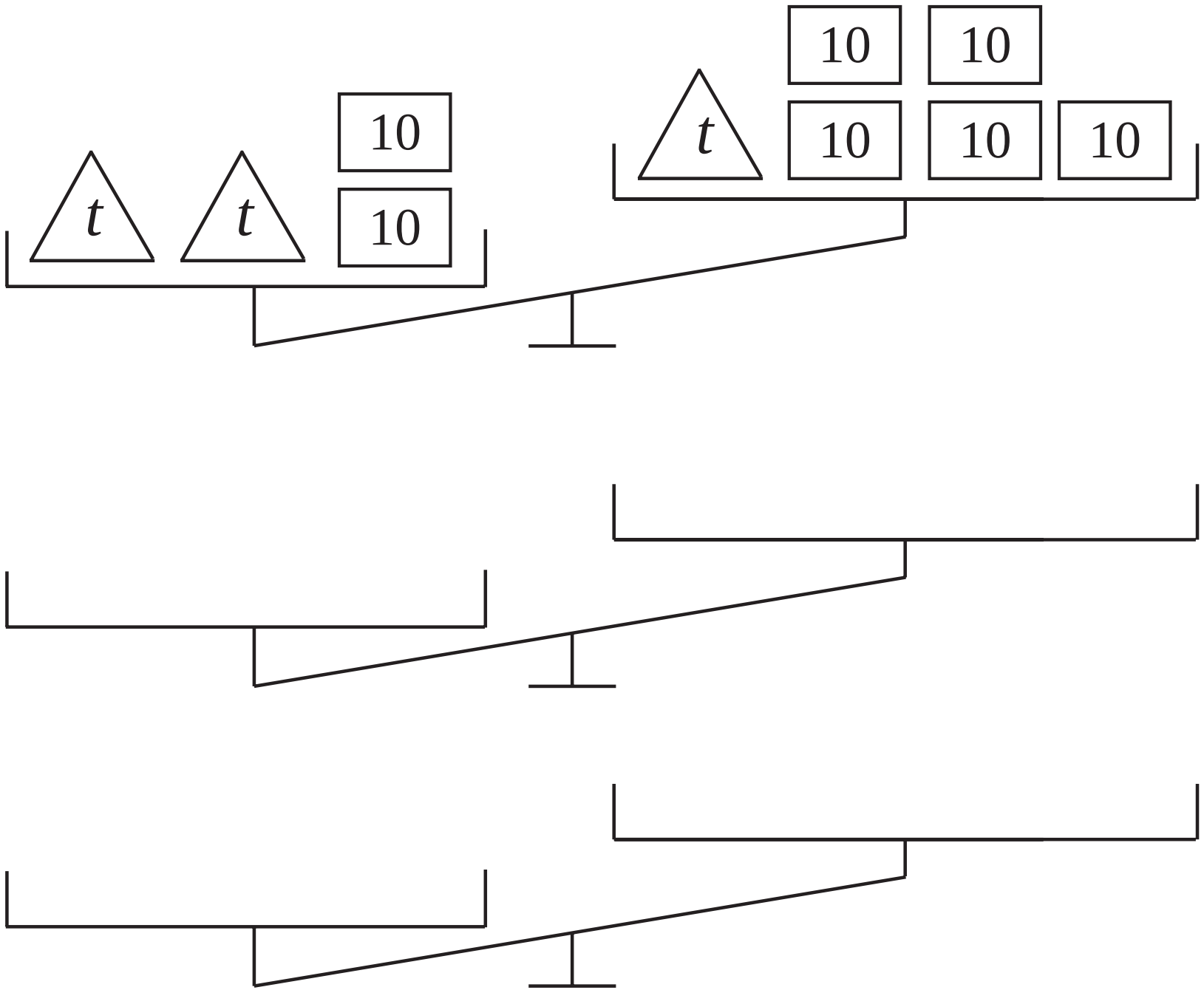
c)



LP 143/2c

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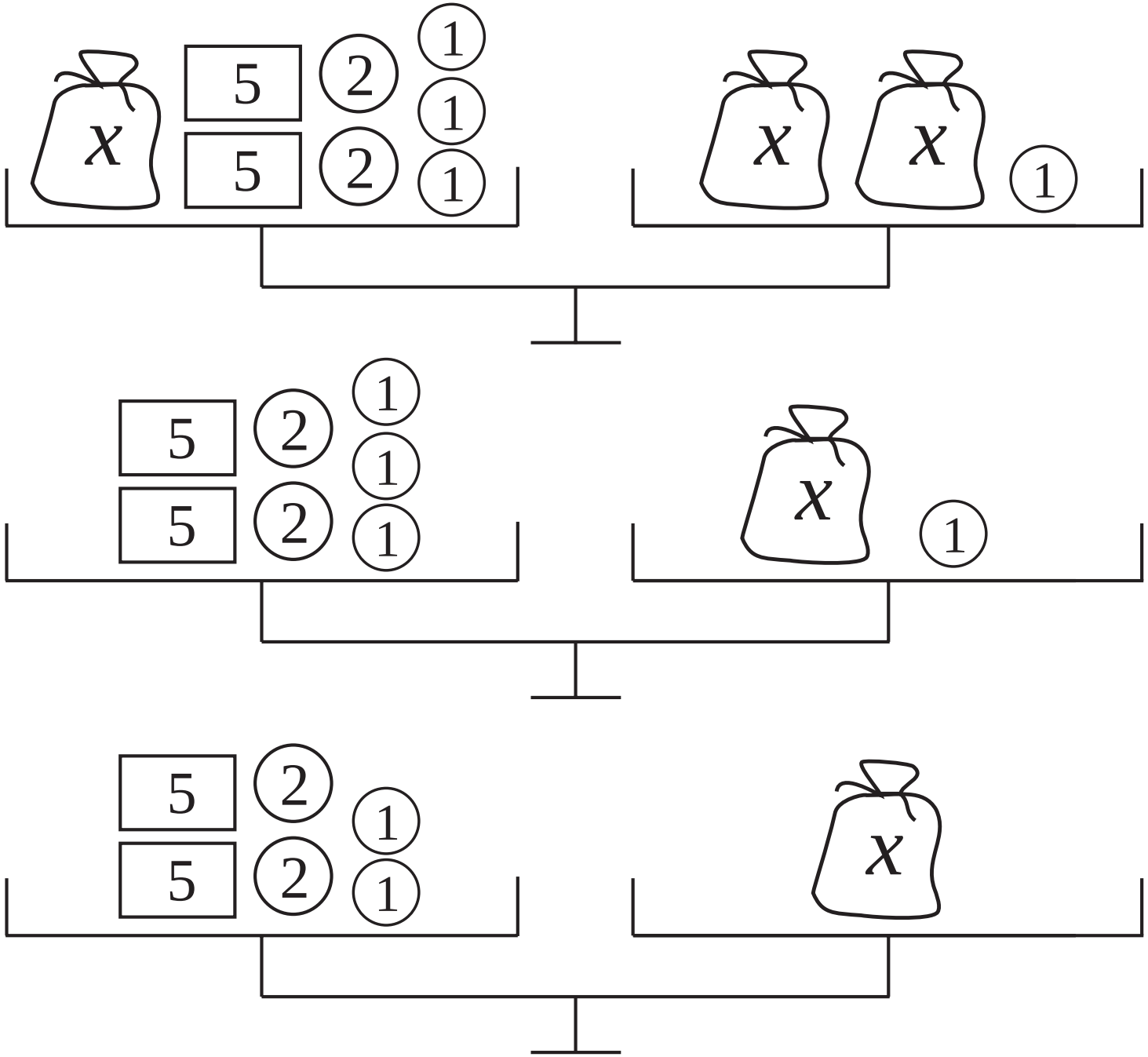

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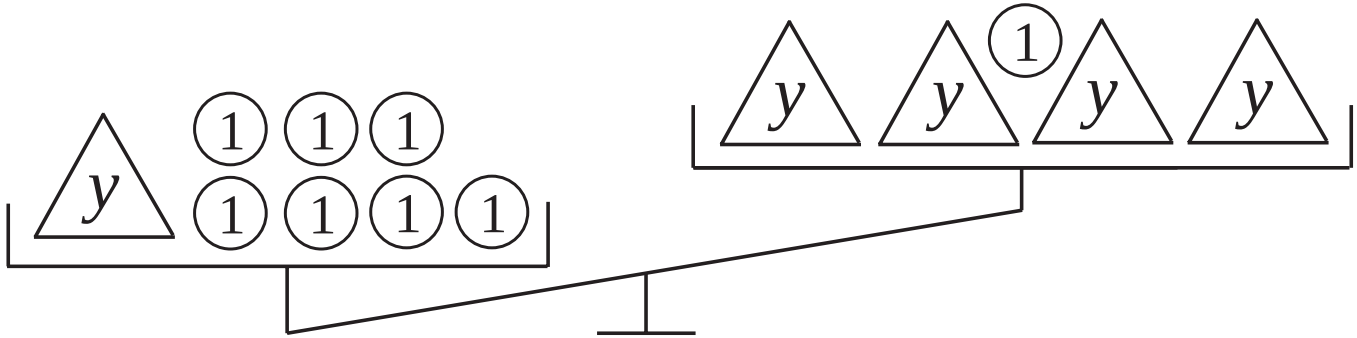

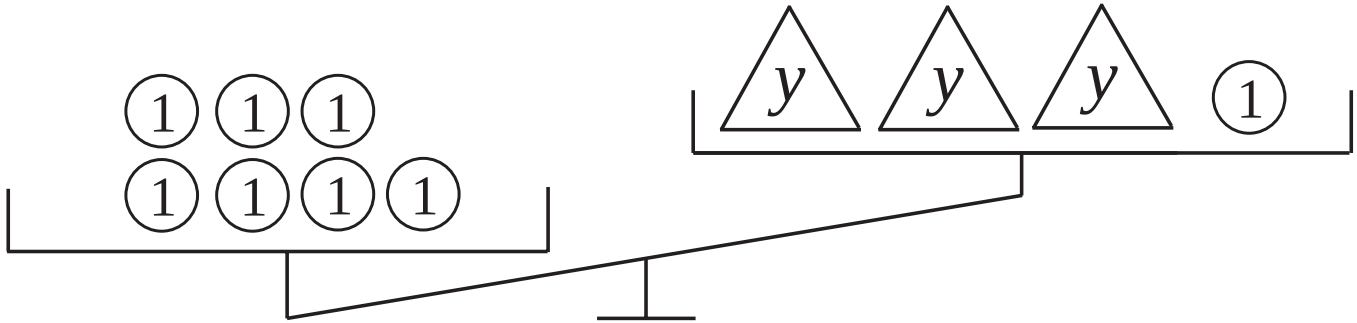

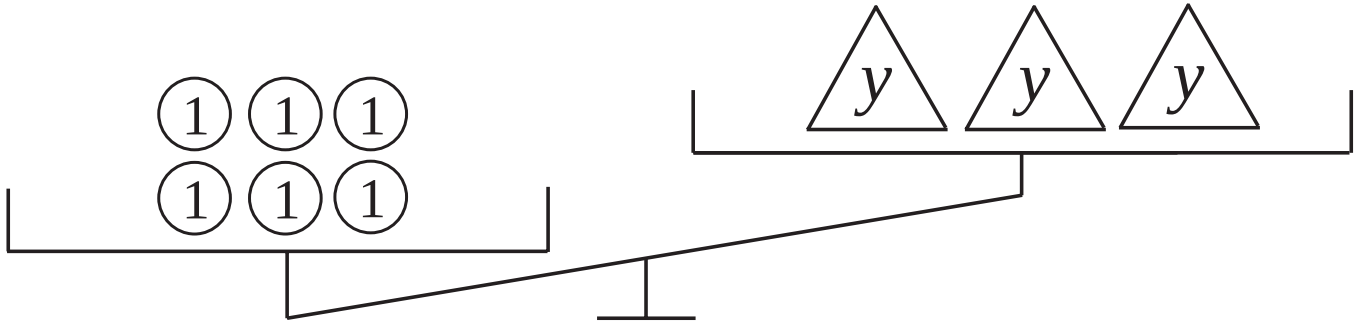

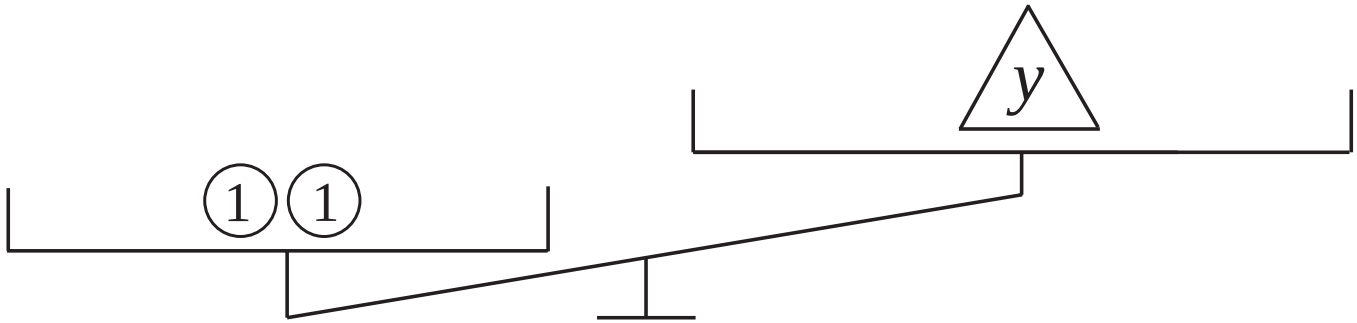

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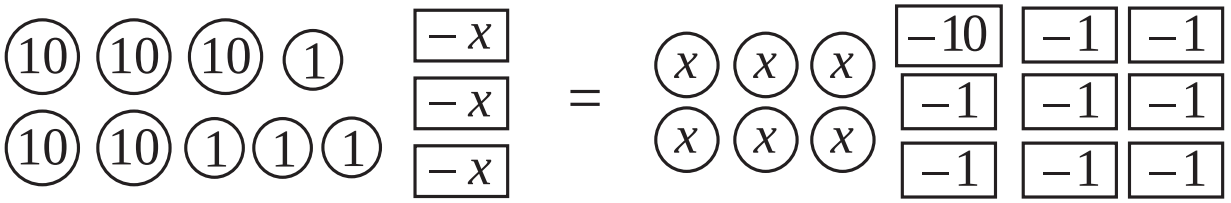
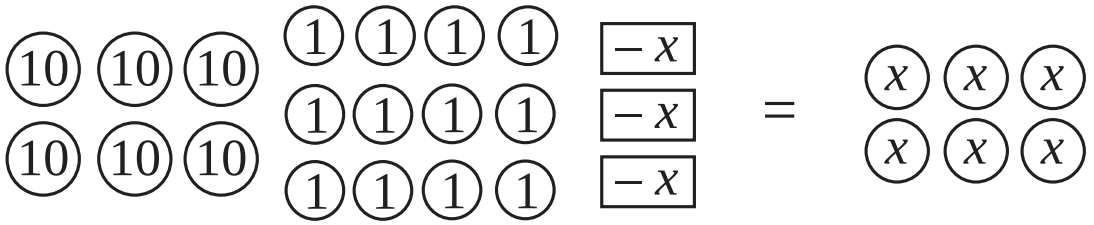


$$54 - 3 \times x = 6 \times x - 18$$



$$72 - 3 \times x = 6 \times x$$

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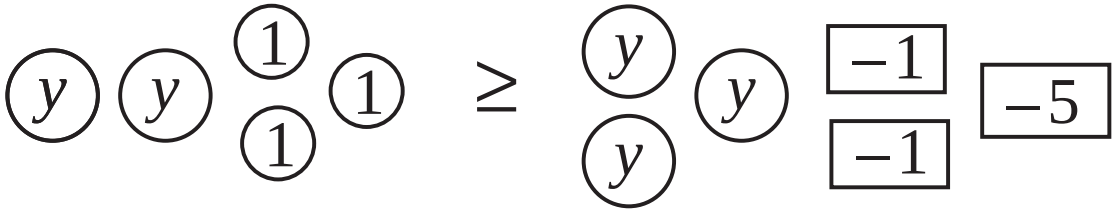

y	-1	0	3	7	9	10	11	16
Left side (L)								
Right side (R)								
L $\geq$ R								

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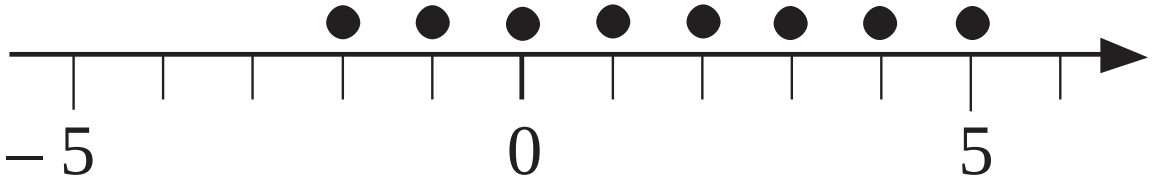
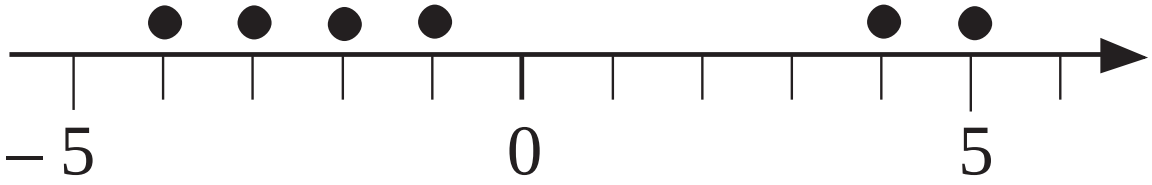
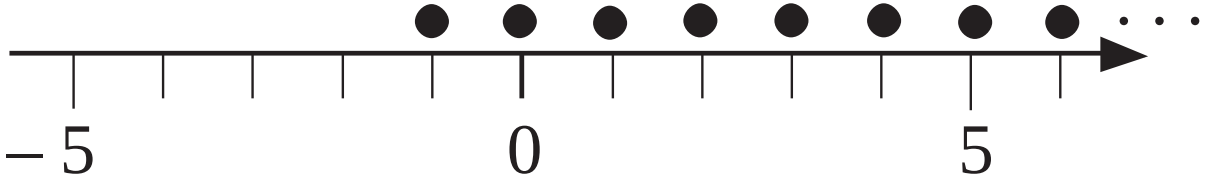
a)



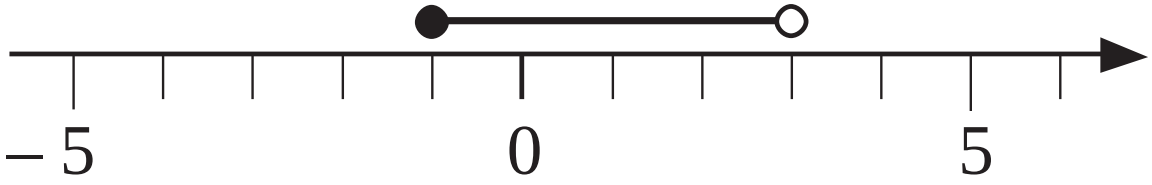
b)



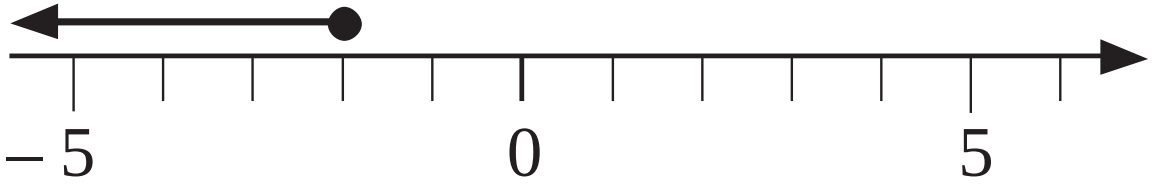
c)



d)



e)



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a) $2 \square 5$ but $-2 \square -5$

b) $5.1 \square -3$ but $-5.1 \square 3$

c) $-2 \square 4$ but $2 \square -4$

d) $-2 \square -1$ but $2 \square 1$

e) $0 \square 2$ but $0 \square -2$

f) $0 \square -2.5$ but $0 \square 2.5$

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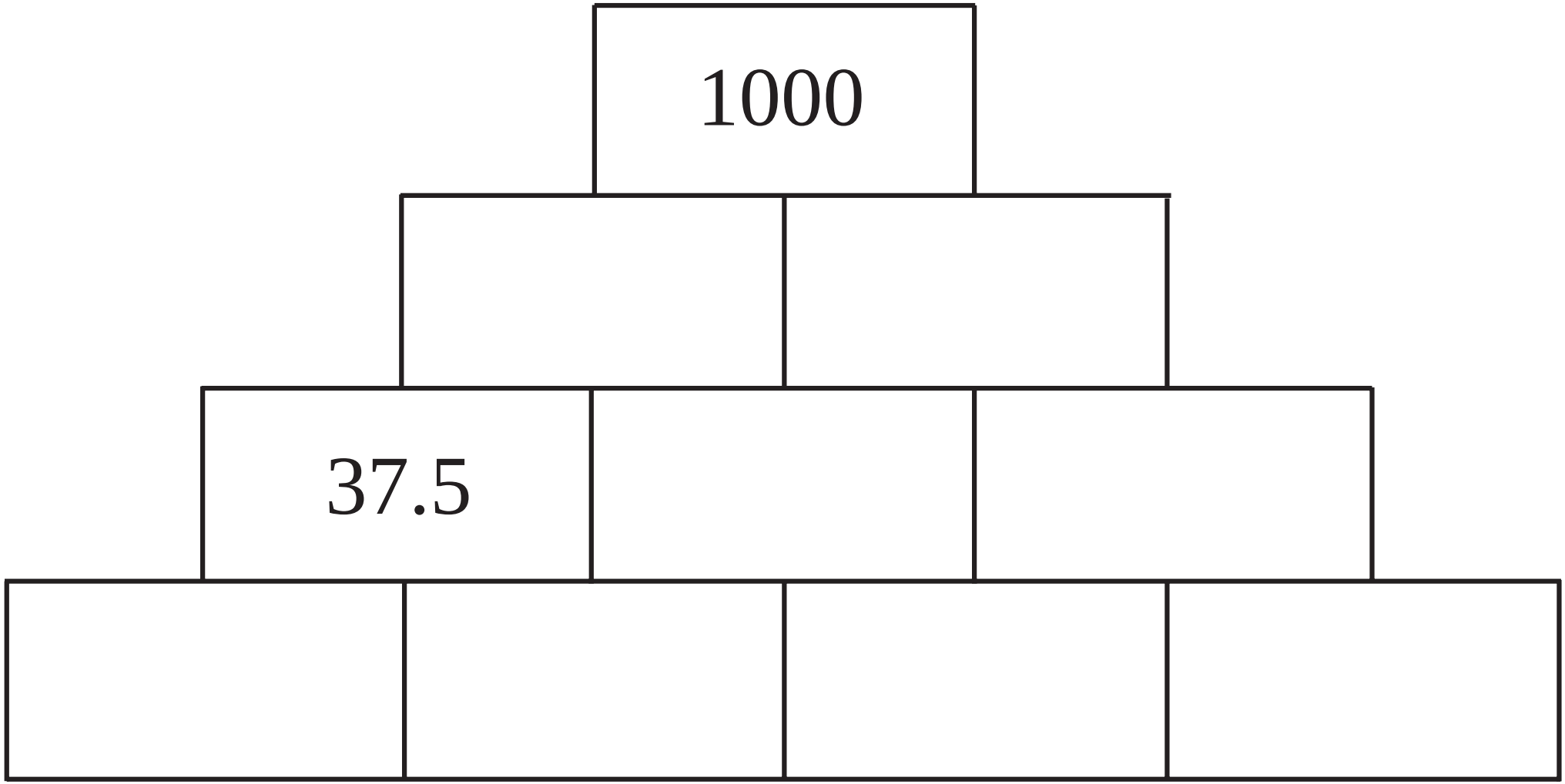

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a) A **cuboid** has 8 vertices, 6 faces and 10 edges. ☐

b) Every **cube** has 6 faces, 8 vertices and 12 edges. ☐

c) A **circle** is a 2-dimensional shape. ☐

d) A **line segment** is a 2-D shape. ☐

e) Every cuboid is a **prism**. ☐

f) Any prism is a cuboid. ☐

g) If the diagonals of a quadrilateral are equal and **bisect** each other, the quadrilateral is a rectangle. ☐

h) If a quadrilateral has 2 lines of symmetry, it is a **rhombus**. ☐

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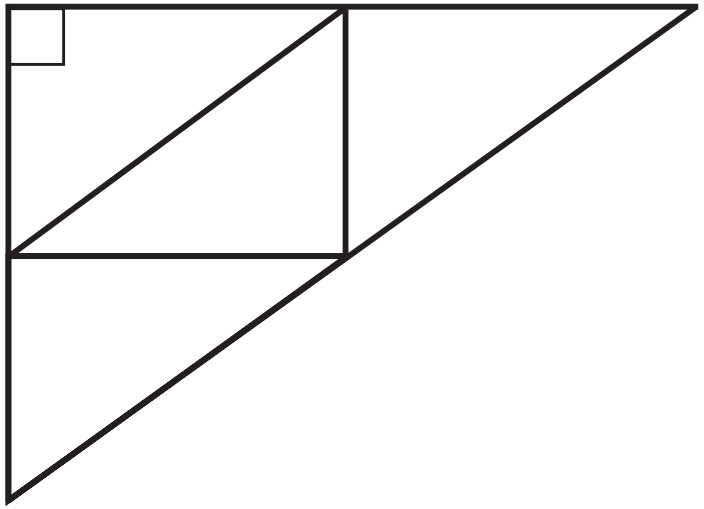
a)



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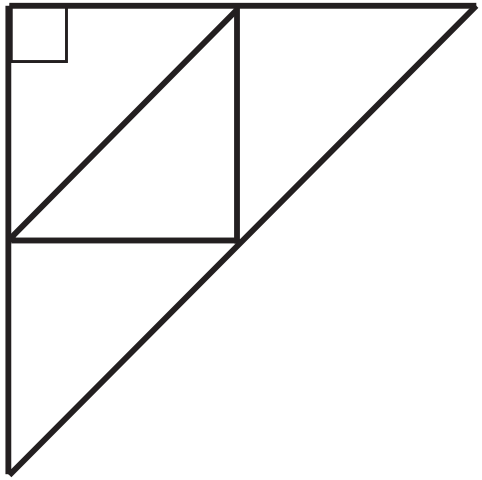

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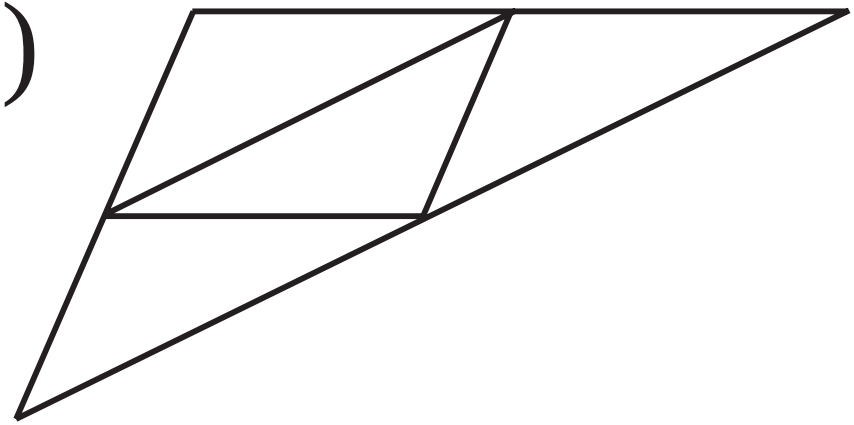

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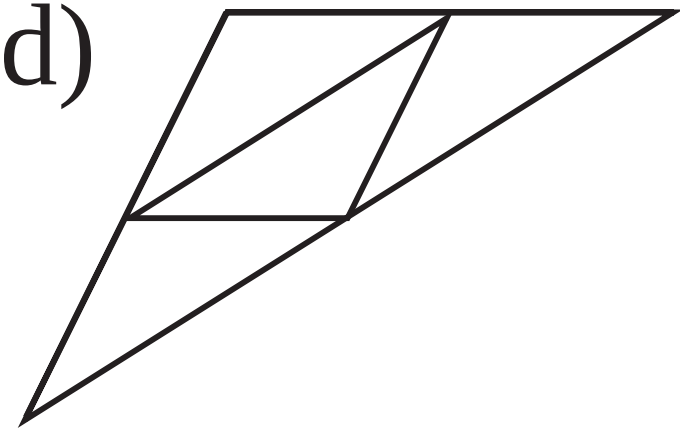

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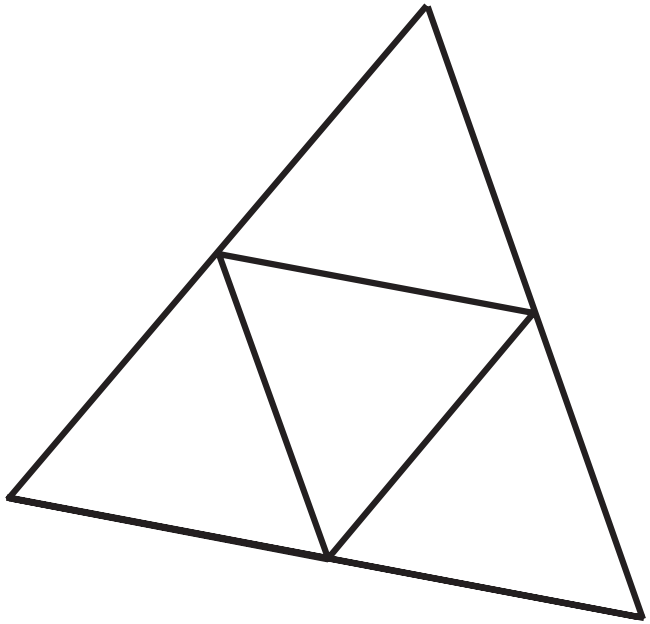

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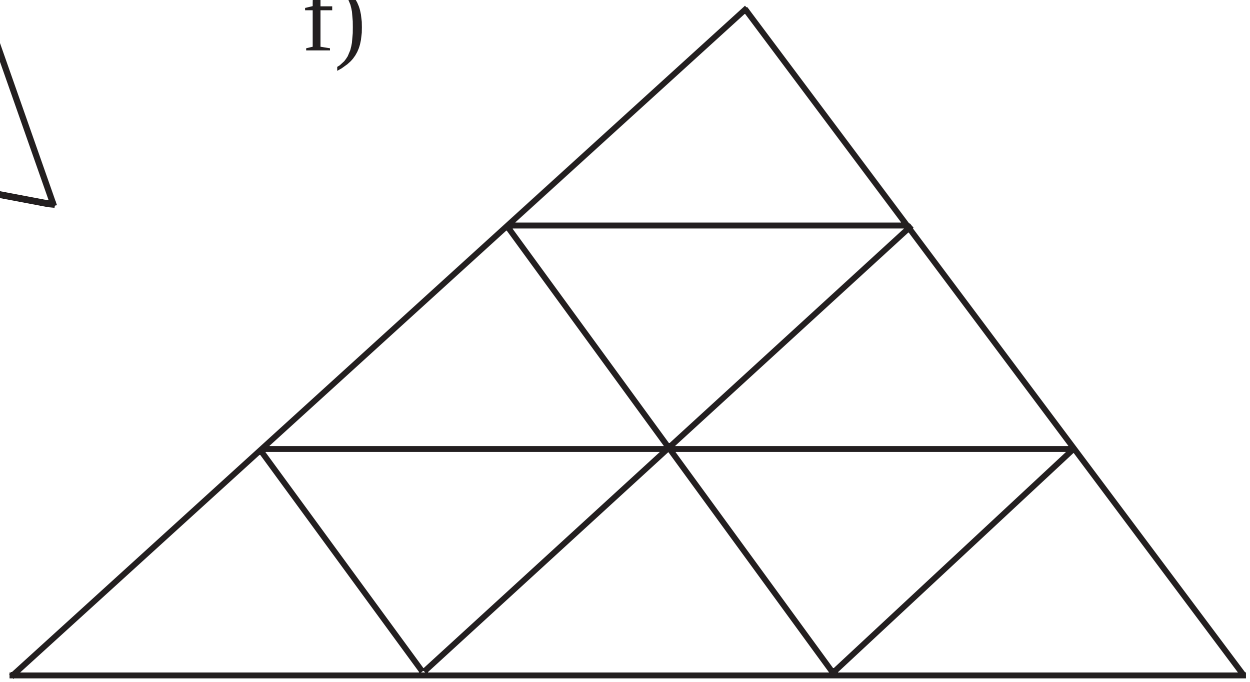

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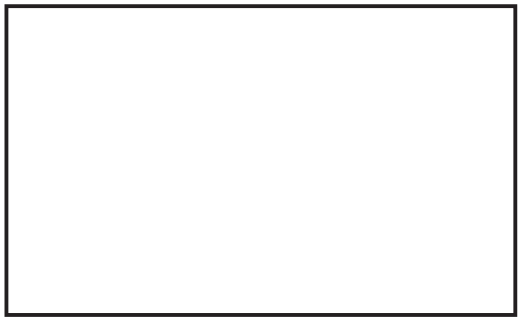

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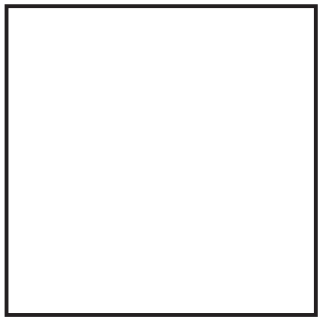

c)

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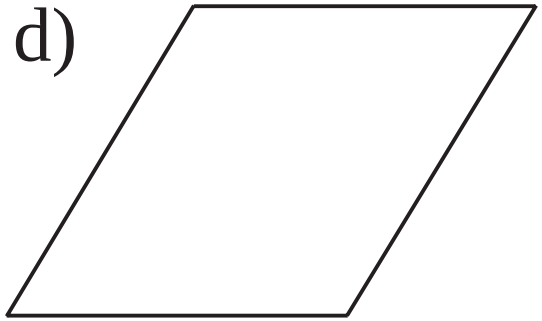

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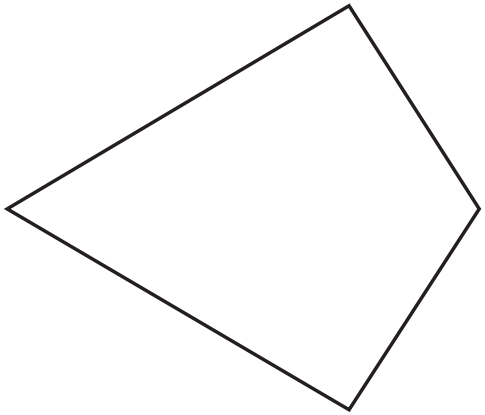

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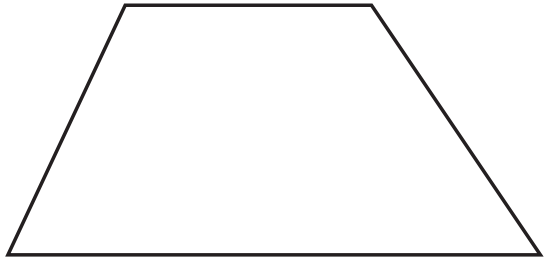

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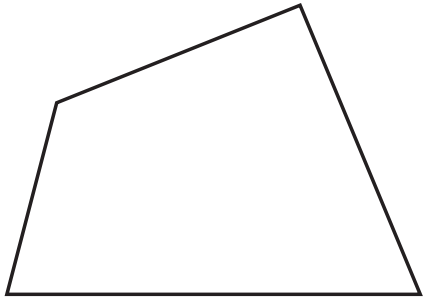

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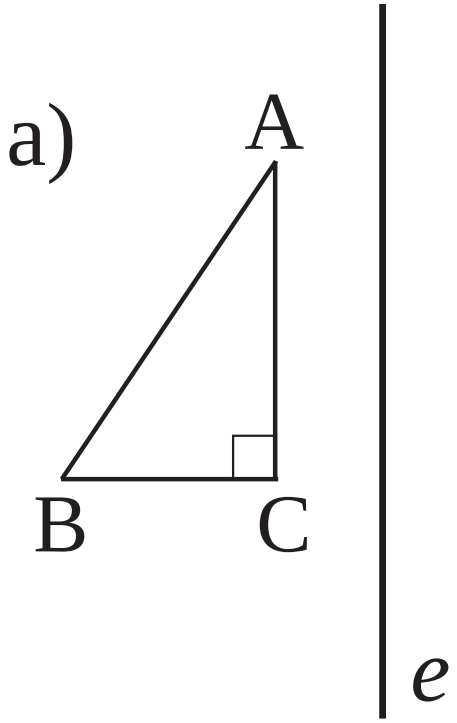
a)



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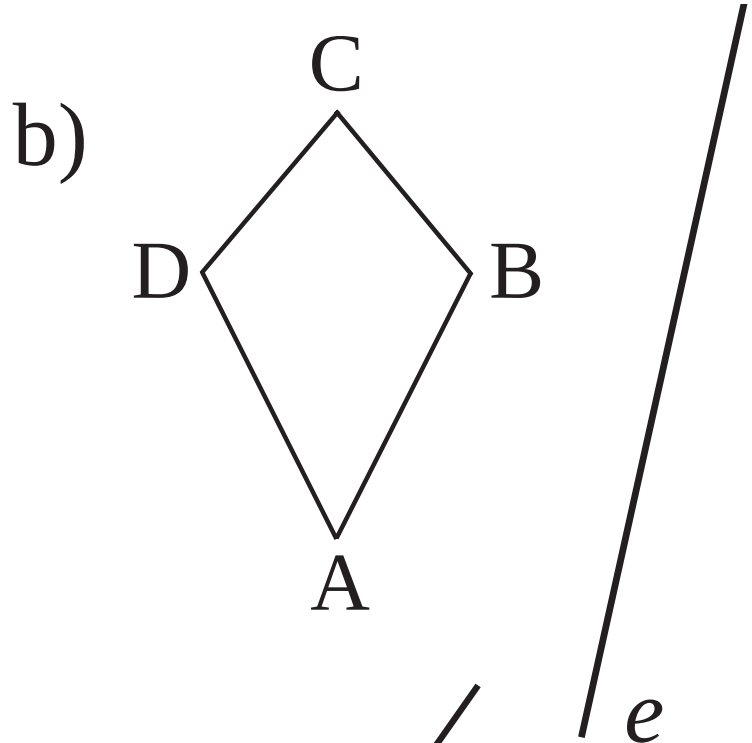

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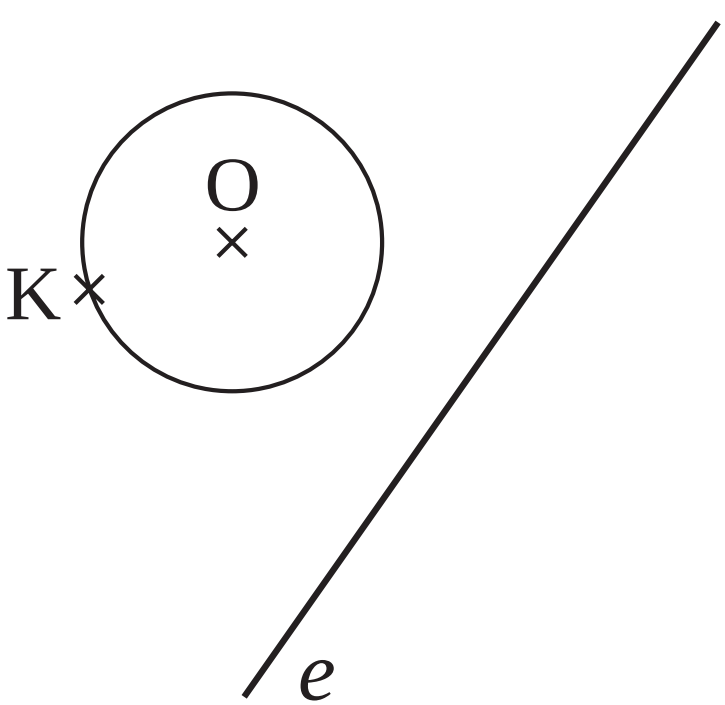

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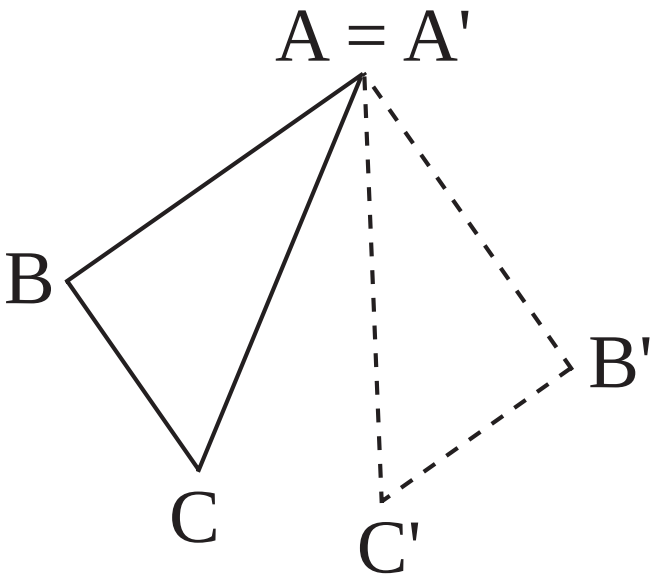

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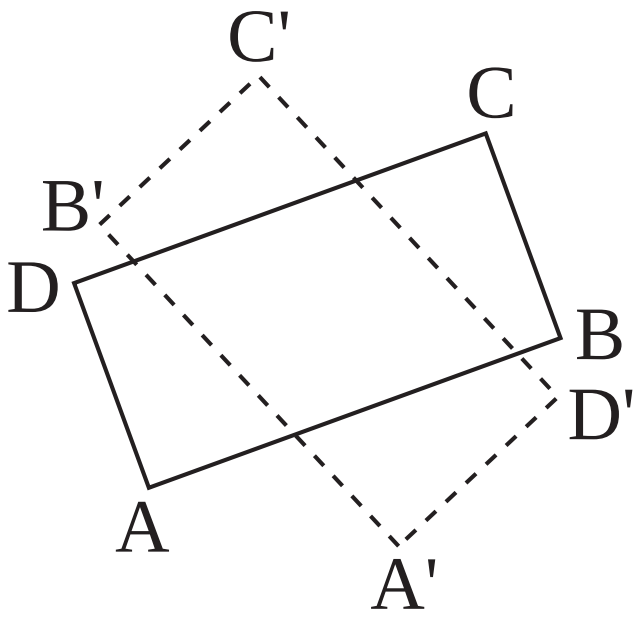

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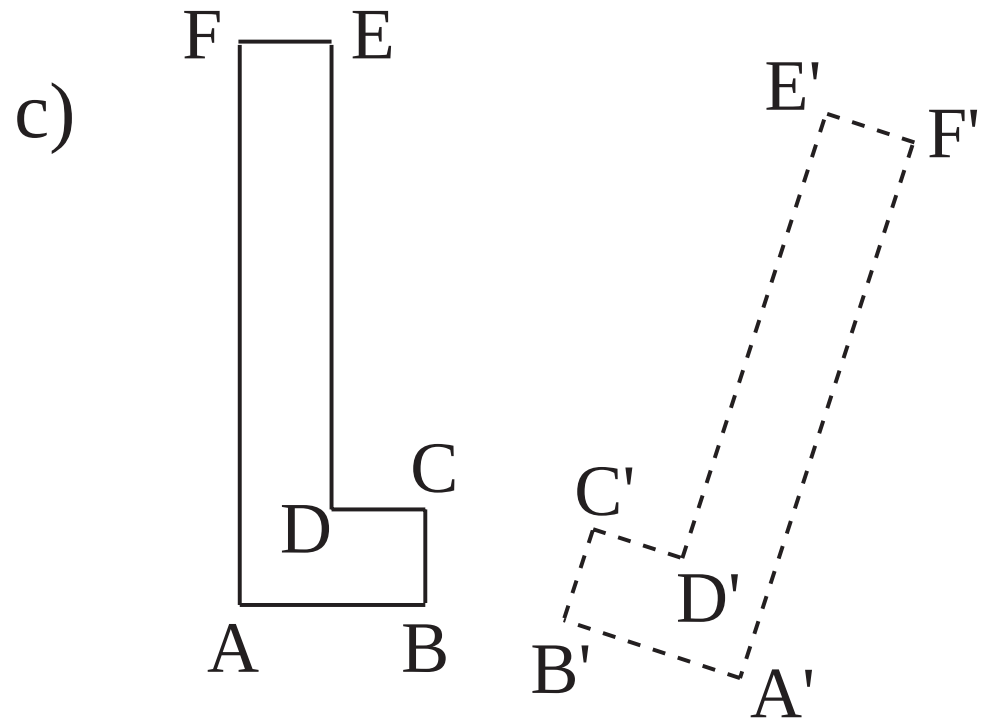

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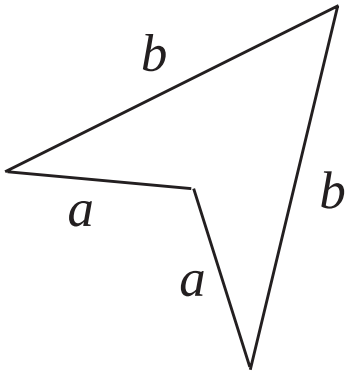

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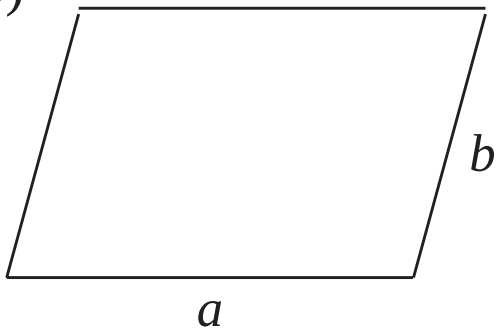

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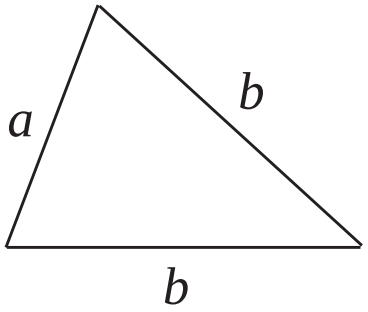

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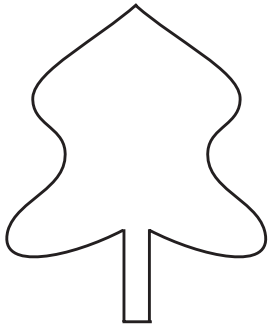

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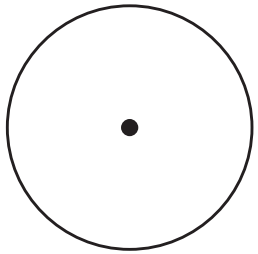

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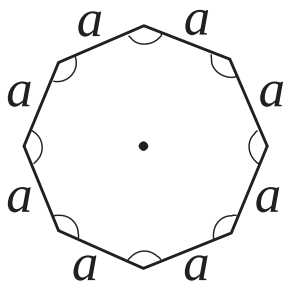

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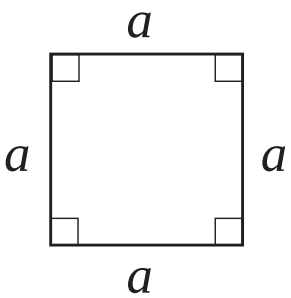

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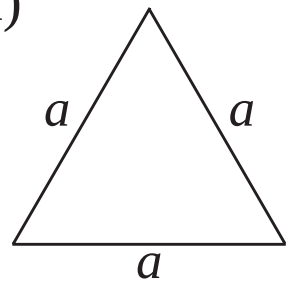
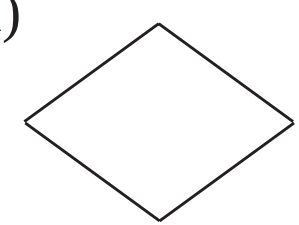


i)



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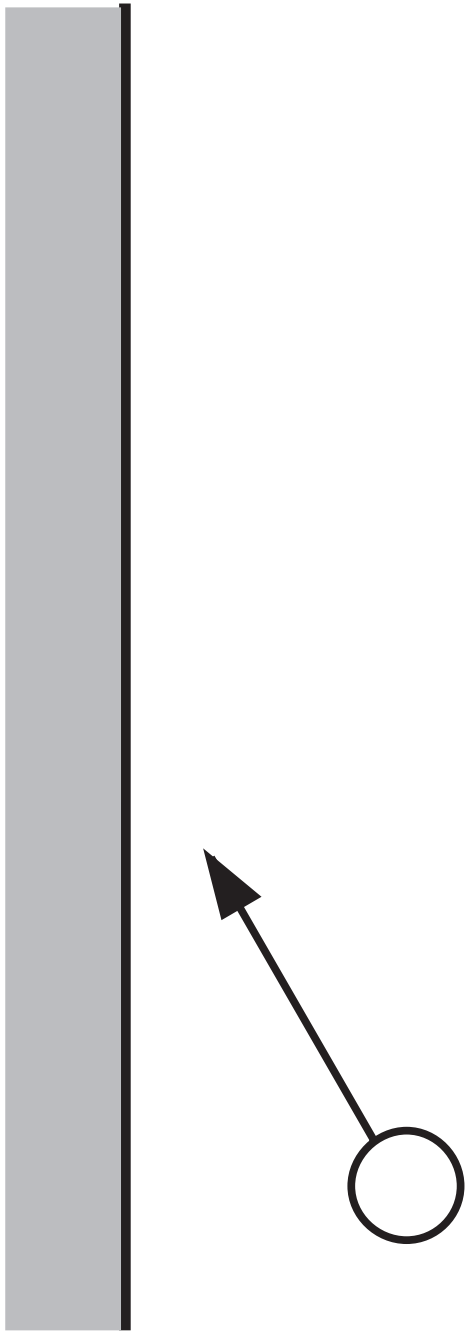
a)



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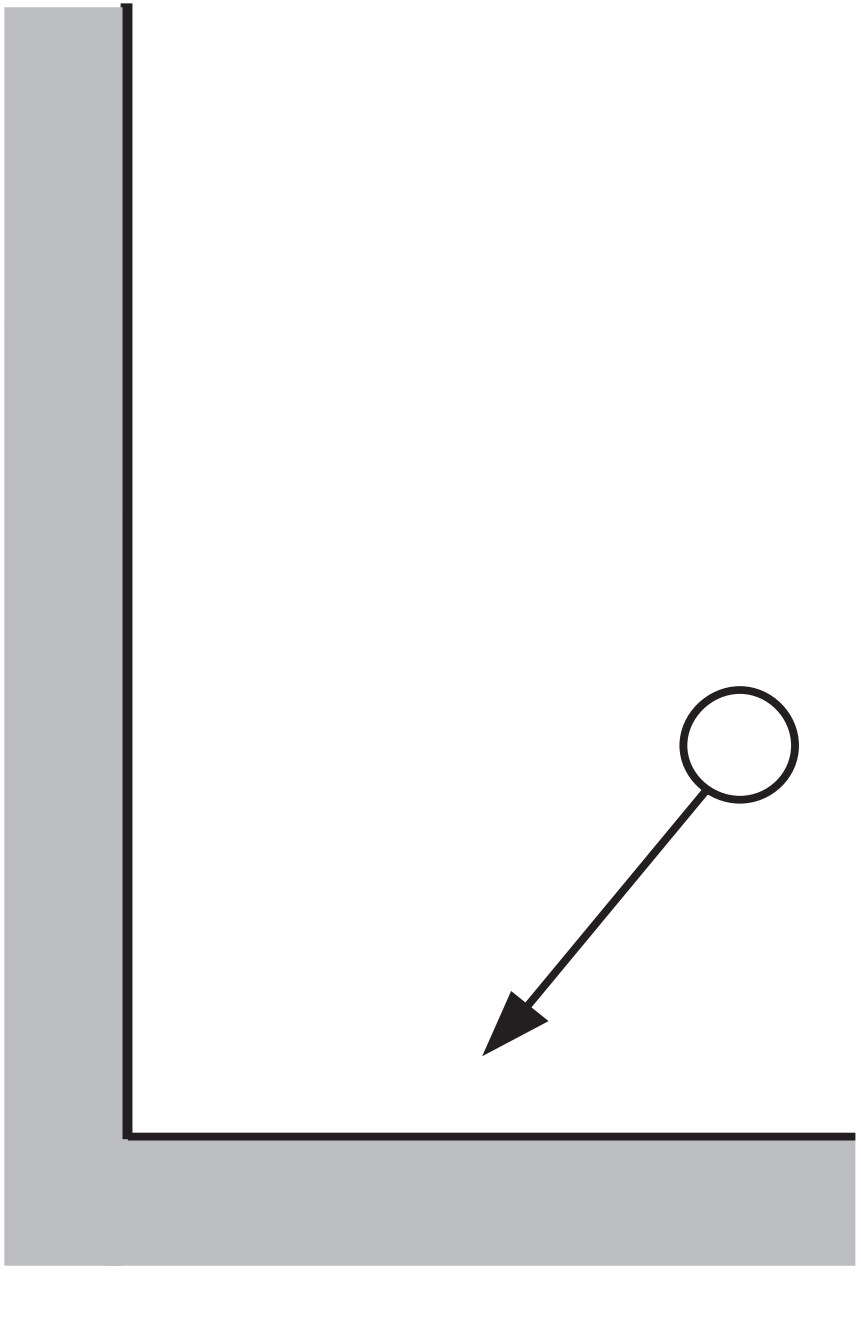

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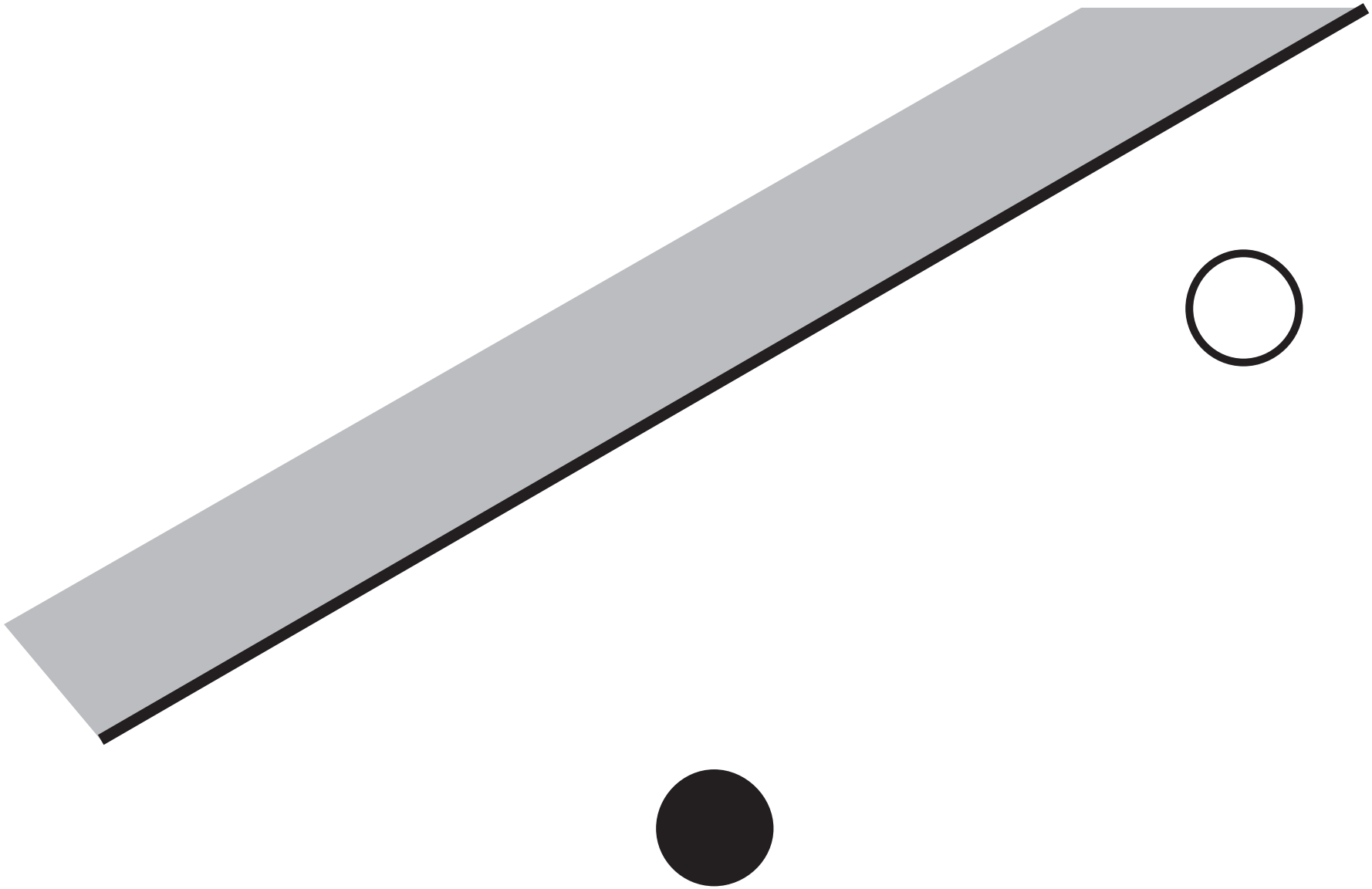

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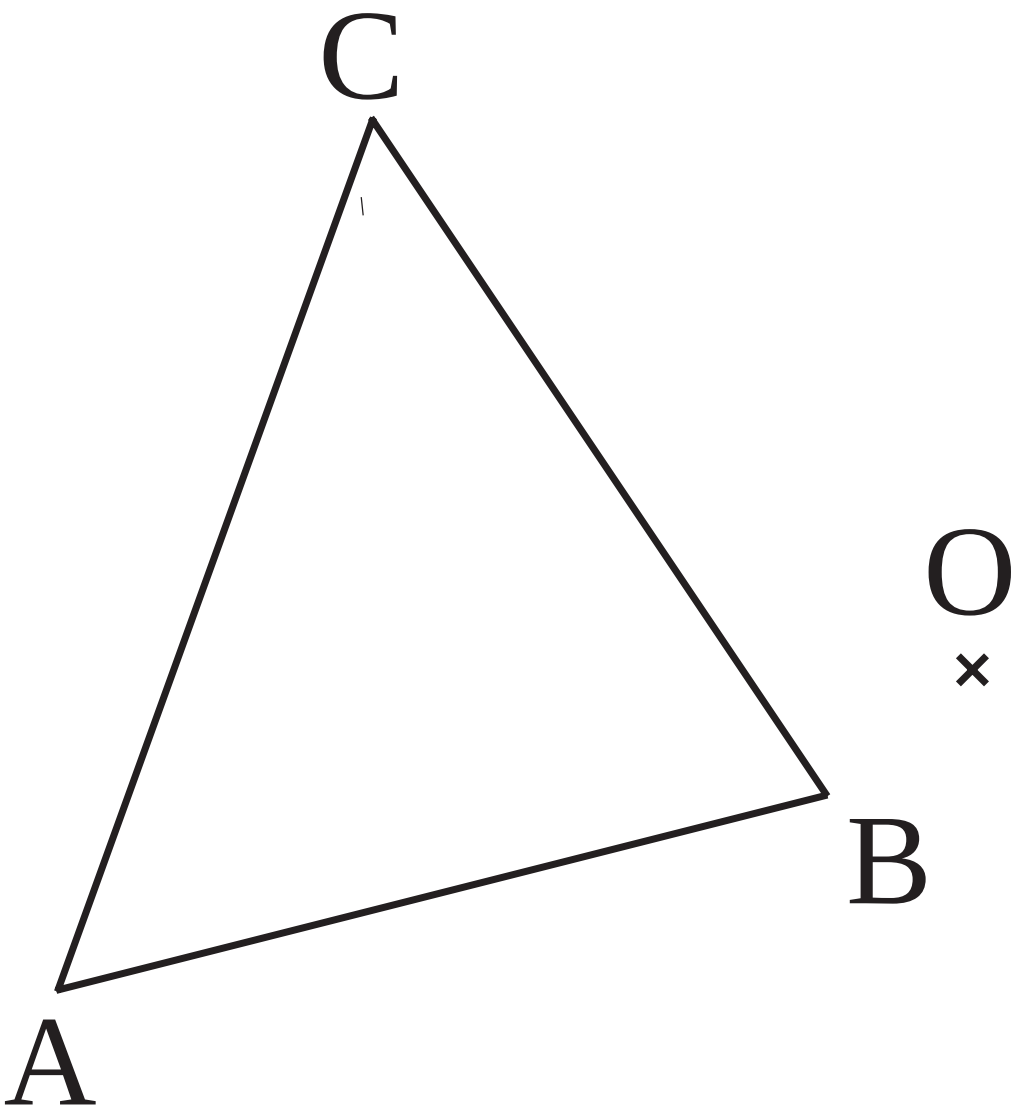

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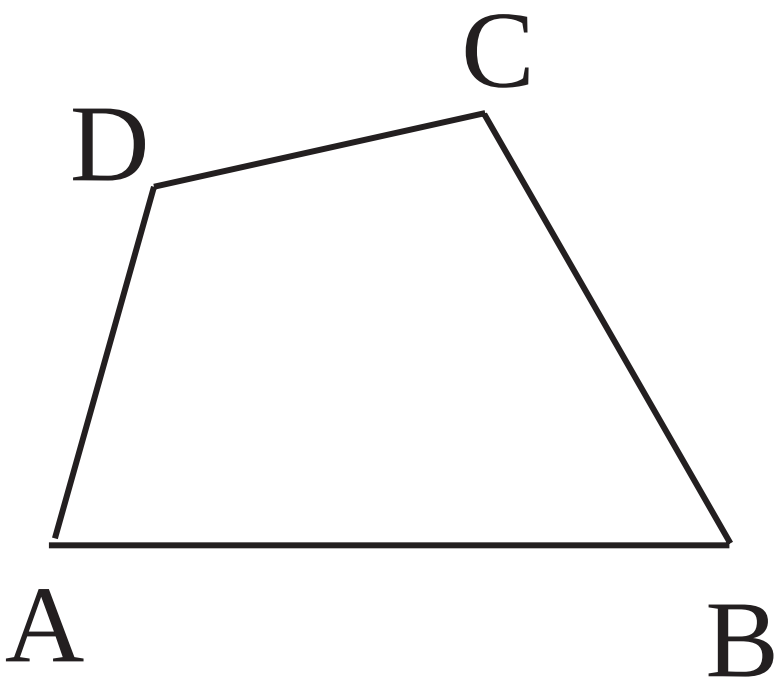

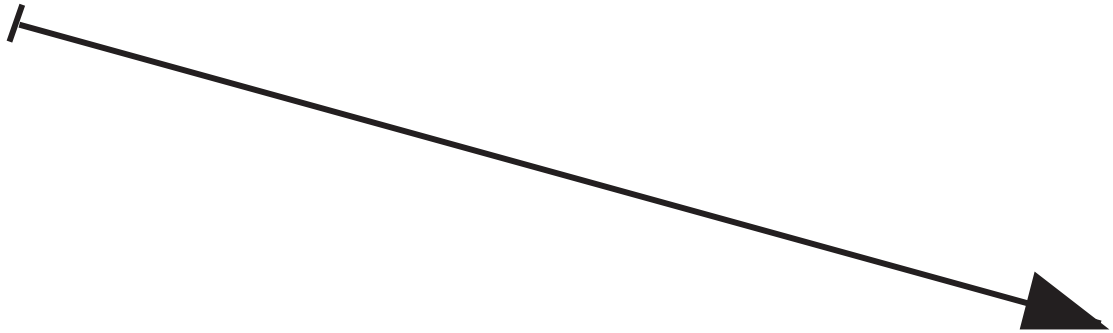

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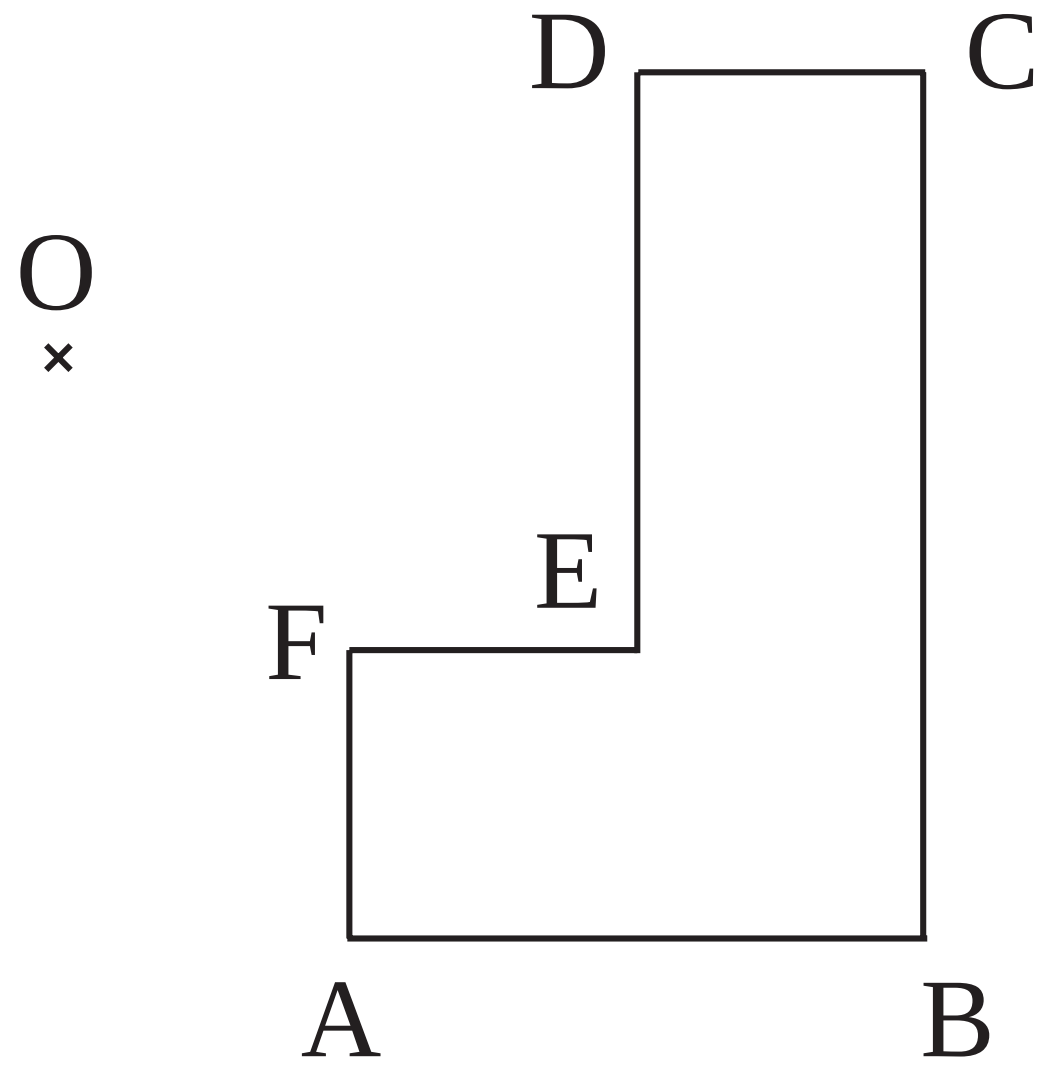

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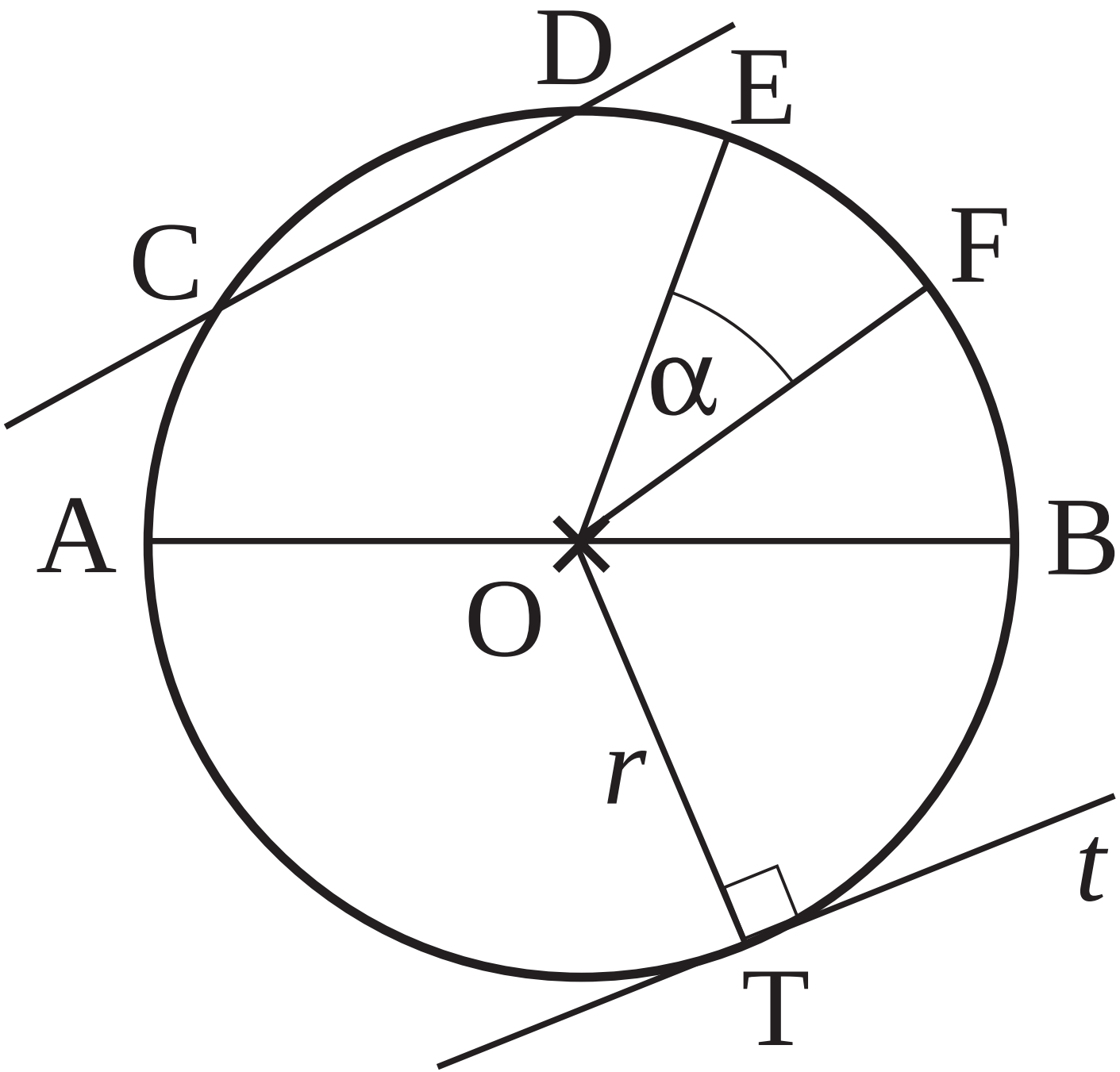

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a) OT is a ☐ of the circle.

b) O is the ☐ of the circle.

c) AB is a ☐ of the circle.

d) **Line segment** CD is a ☐ of the circle.

e) The smaller shape EOF is a ☐ of the circle.

f) The curve EF is an ☐ on the **circumference** of the circle.

g) $\angle$ EOF (= α) is the ☐ ☐ of the smaller sector EOF.

h) **Line** CD is an ☐ of the circle.

i) t is a ☐ to the circle.

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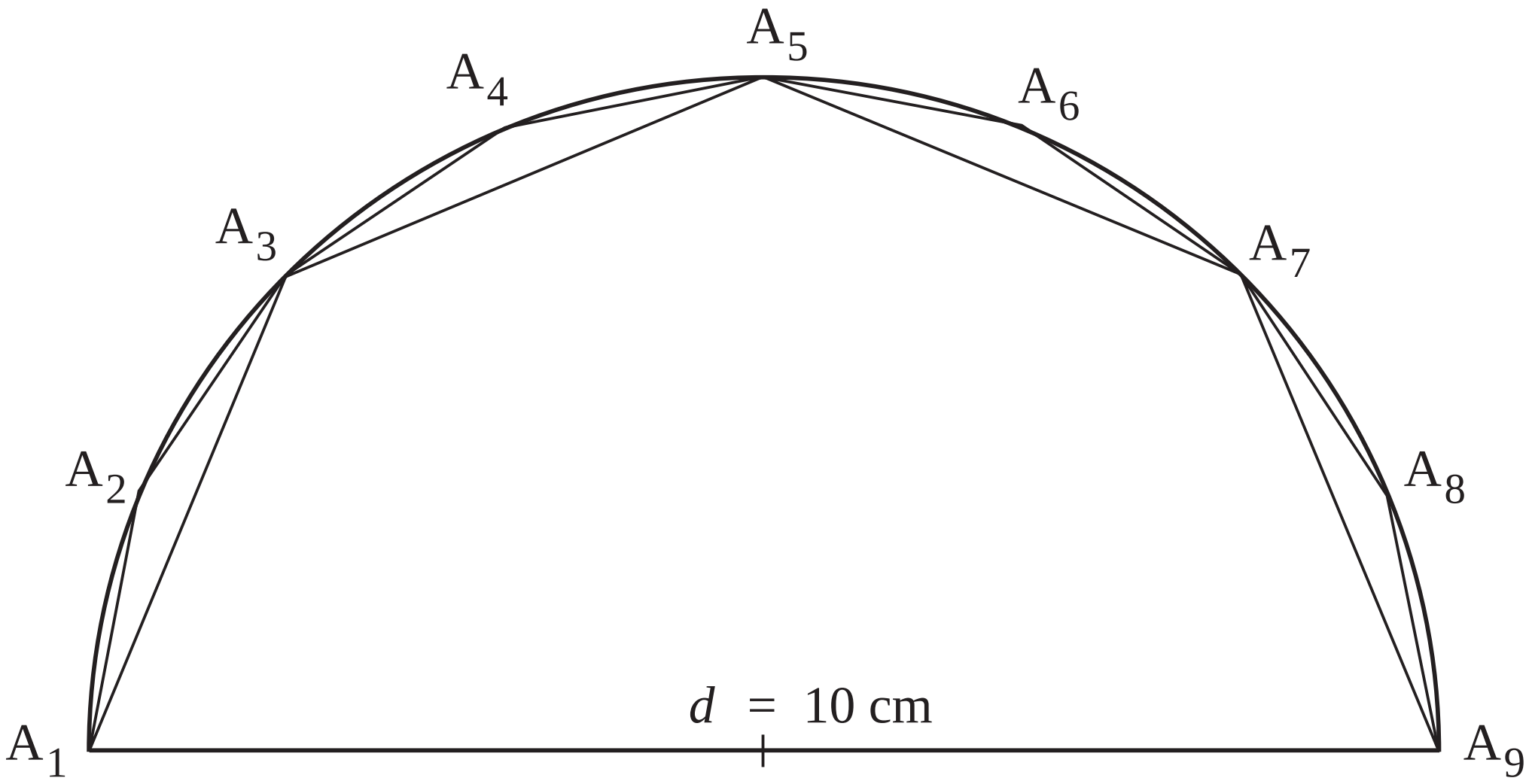

$A_1\ A_3\ A_5\ A_7\ A_9 \ldots\ldots\ldots\ldots$ $A_1\ A_2\ A_3 \ldots A_9\ \ldots\ldots\ldots\ldots$

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a) Every **isosceles triangle** has angles of 60°. ☐

b) No **rectangle** has adjacent equal sides. ☐

c) The **diameter** of a circle is twice the length of its radius. ☐

d) The **circumference** of a circle is its radius multiplied by π. ☐

e) There is a **prism** which has congruent faces. ☐

f) A square-based **pyramid** has 5 vertices, 5 faces and 8 edges. ☐

g) If the diagonals of a quadrilateral **bisect** each other at right angles, the quadrilateral is a **rhombus**. ☐

h) A **tangent** to a circle can touch the circle at more than 1 point. ☐

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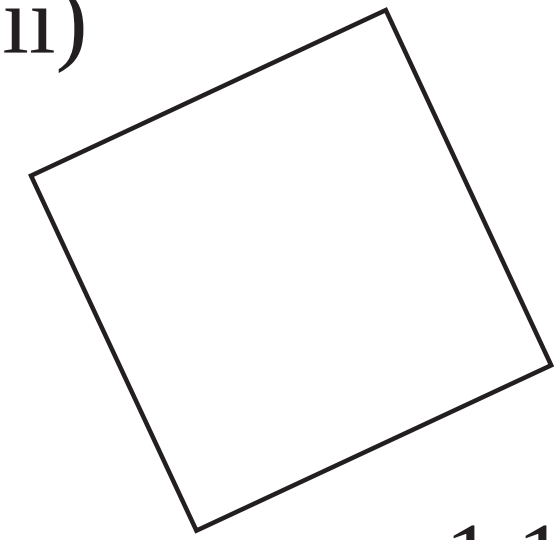
a) i)

$b = 2$ cm

$a = 5$ cm

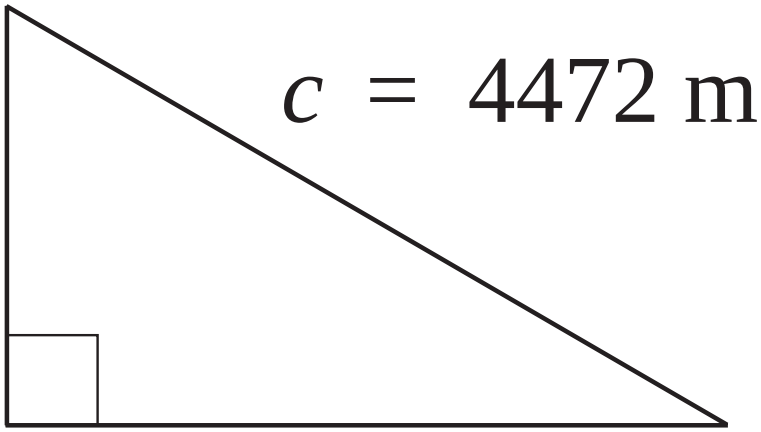
ii)



$a = 1.1$ m

iii)

$a = 2$ km



$c = 4472$ m

$b = 4$ km

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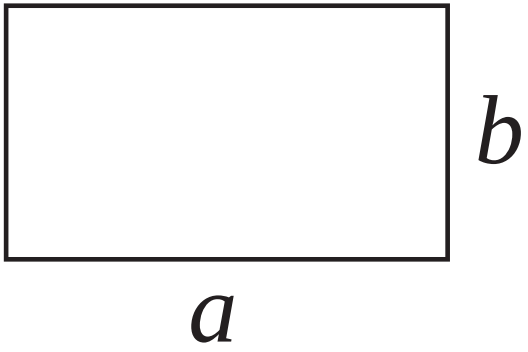
b) i)



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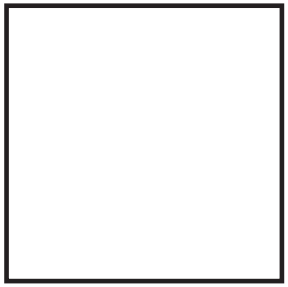

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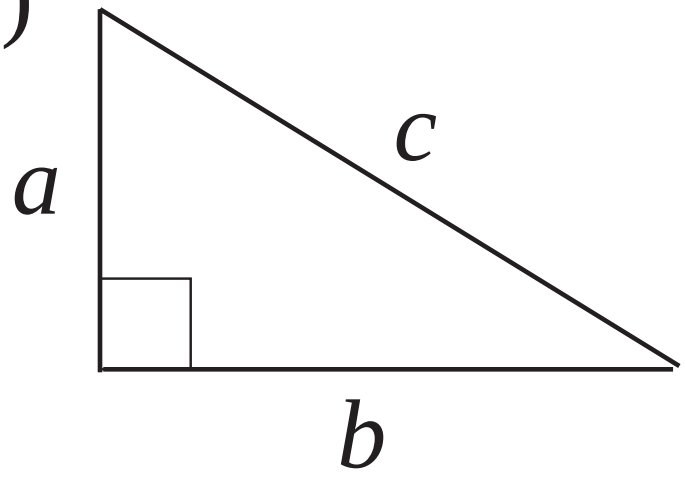

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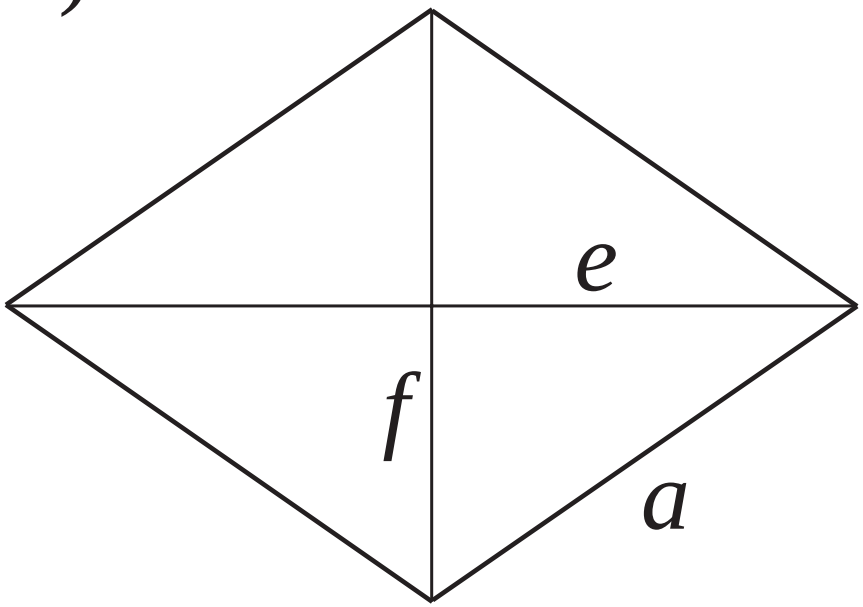

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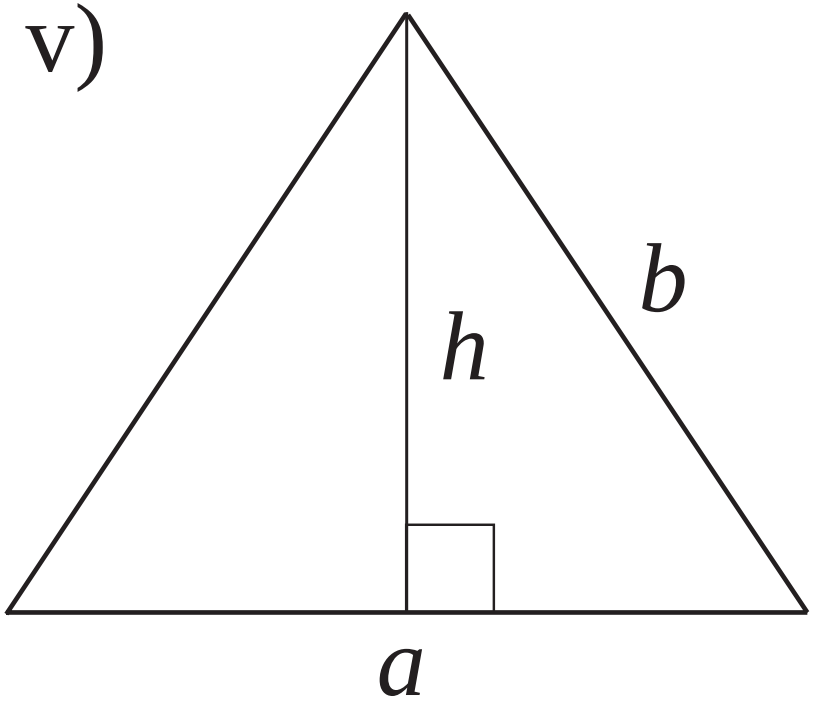

LP 156/2b

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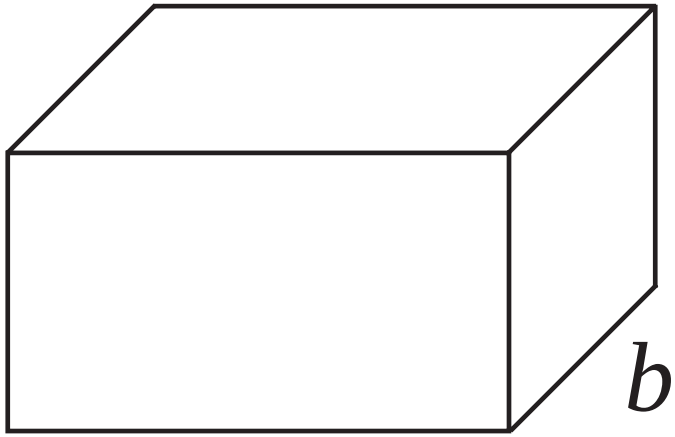
c) i)

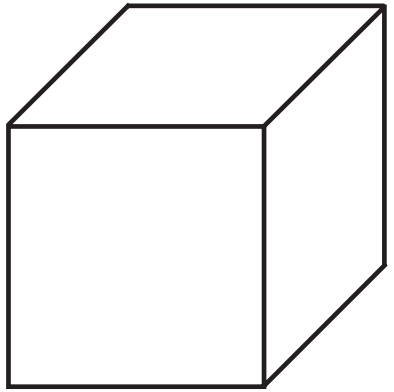


$c = 3$ cm

$b = 2$ cm

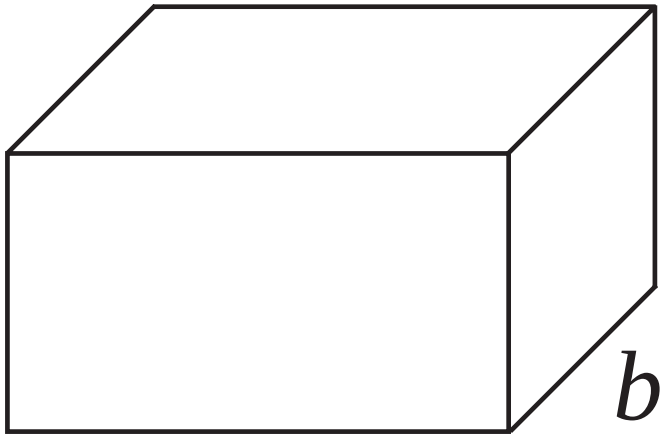
$a = 4$ cm

ii)



$a = 1.5$ m

iii)

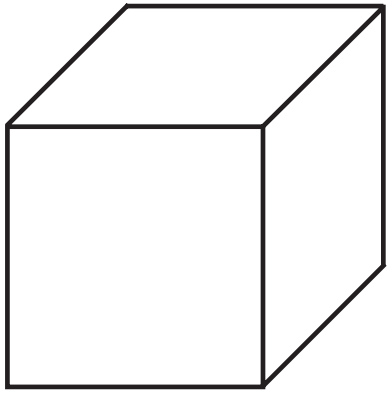


c

b

a

iv)



a

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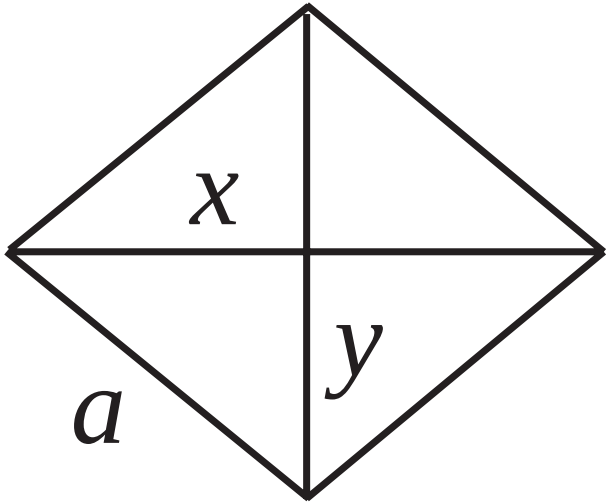
a)

b)



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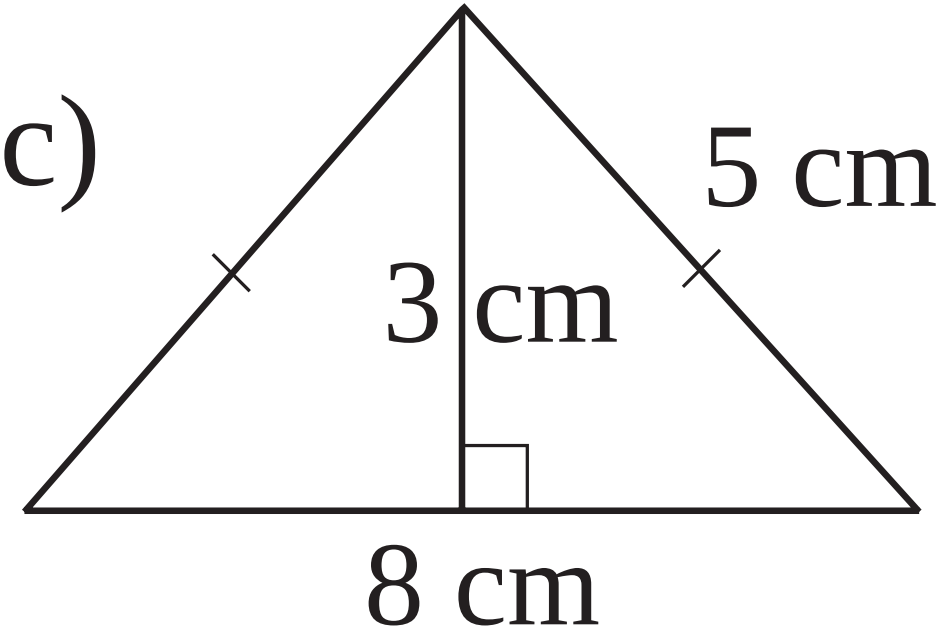

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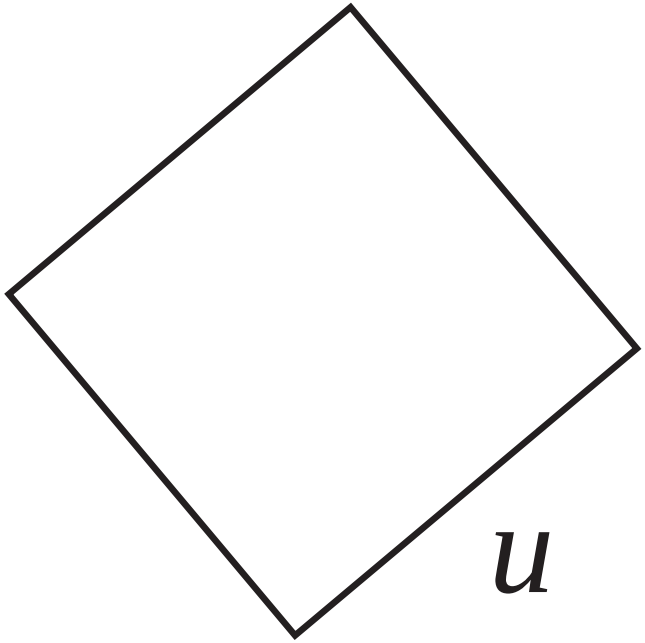

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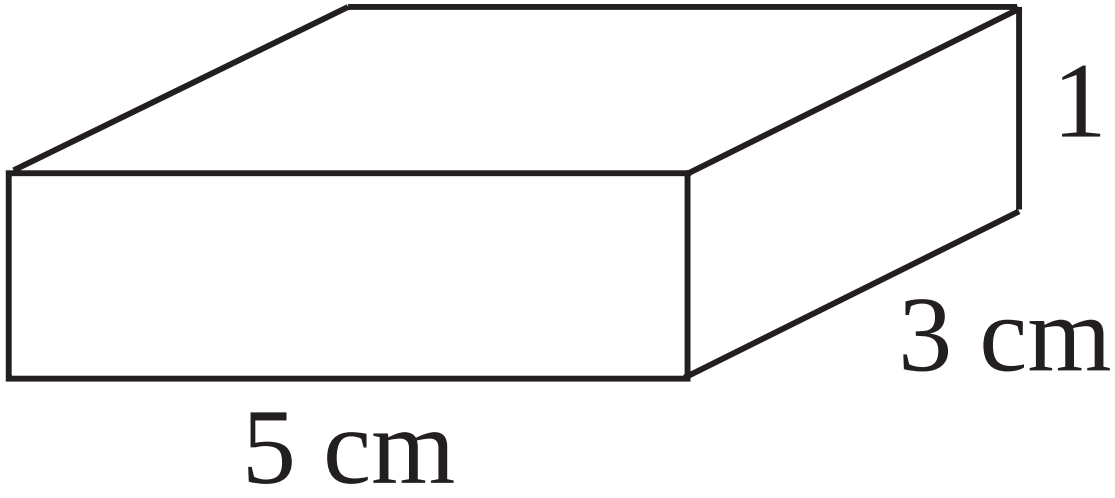

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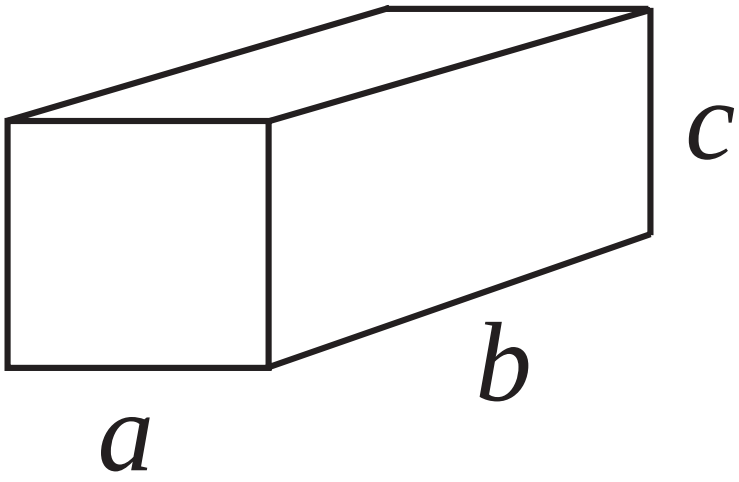

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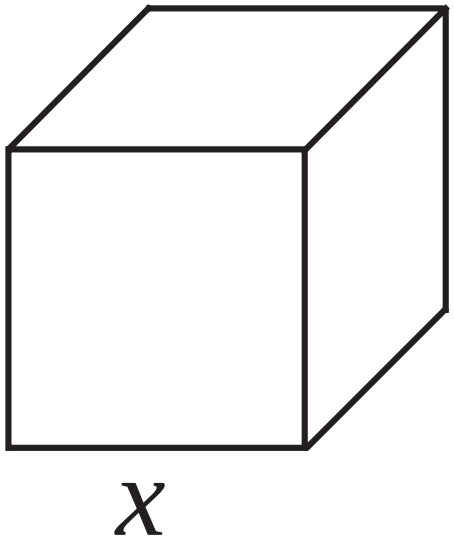

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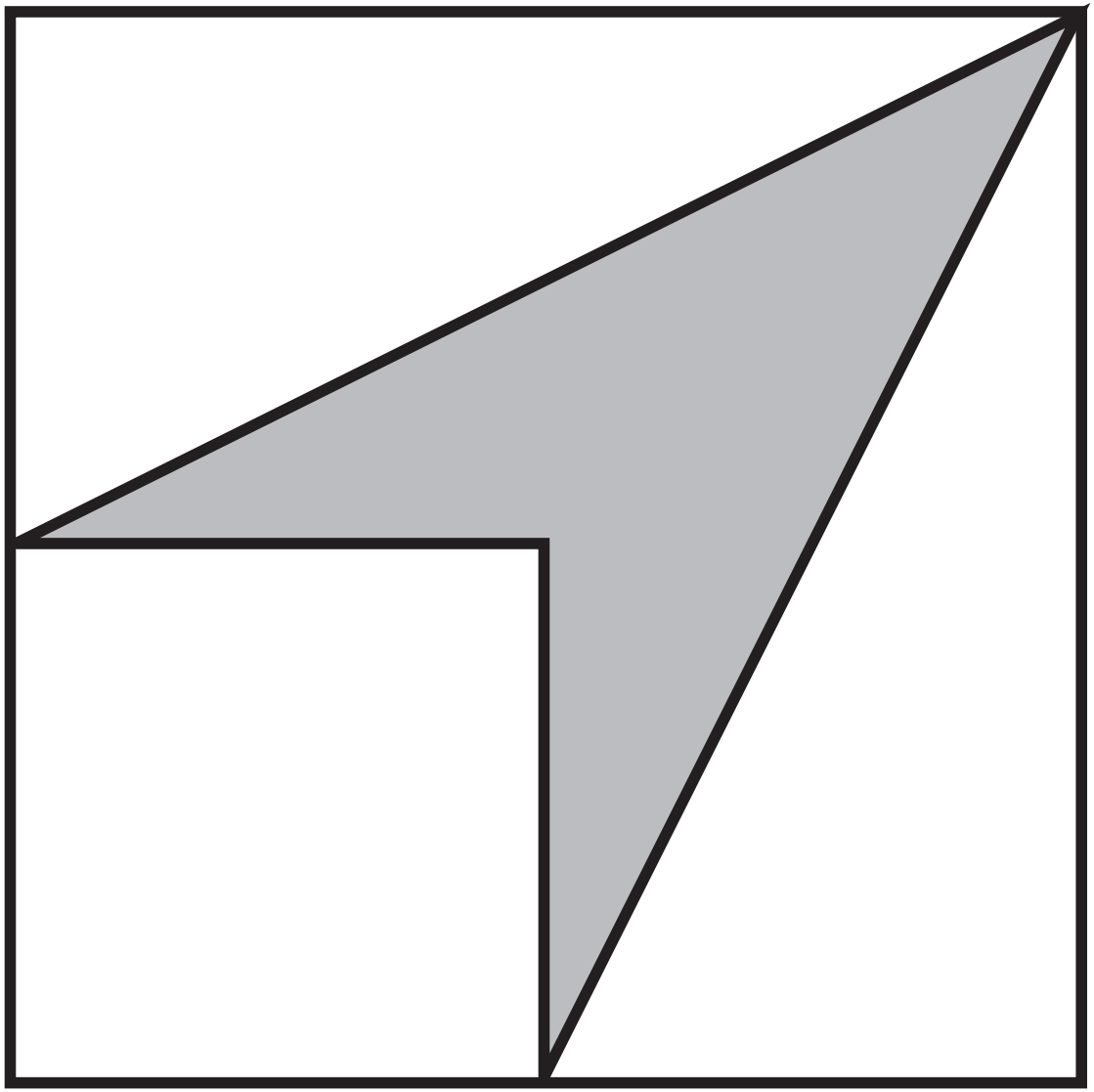

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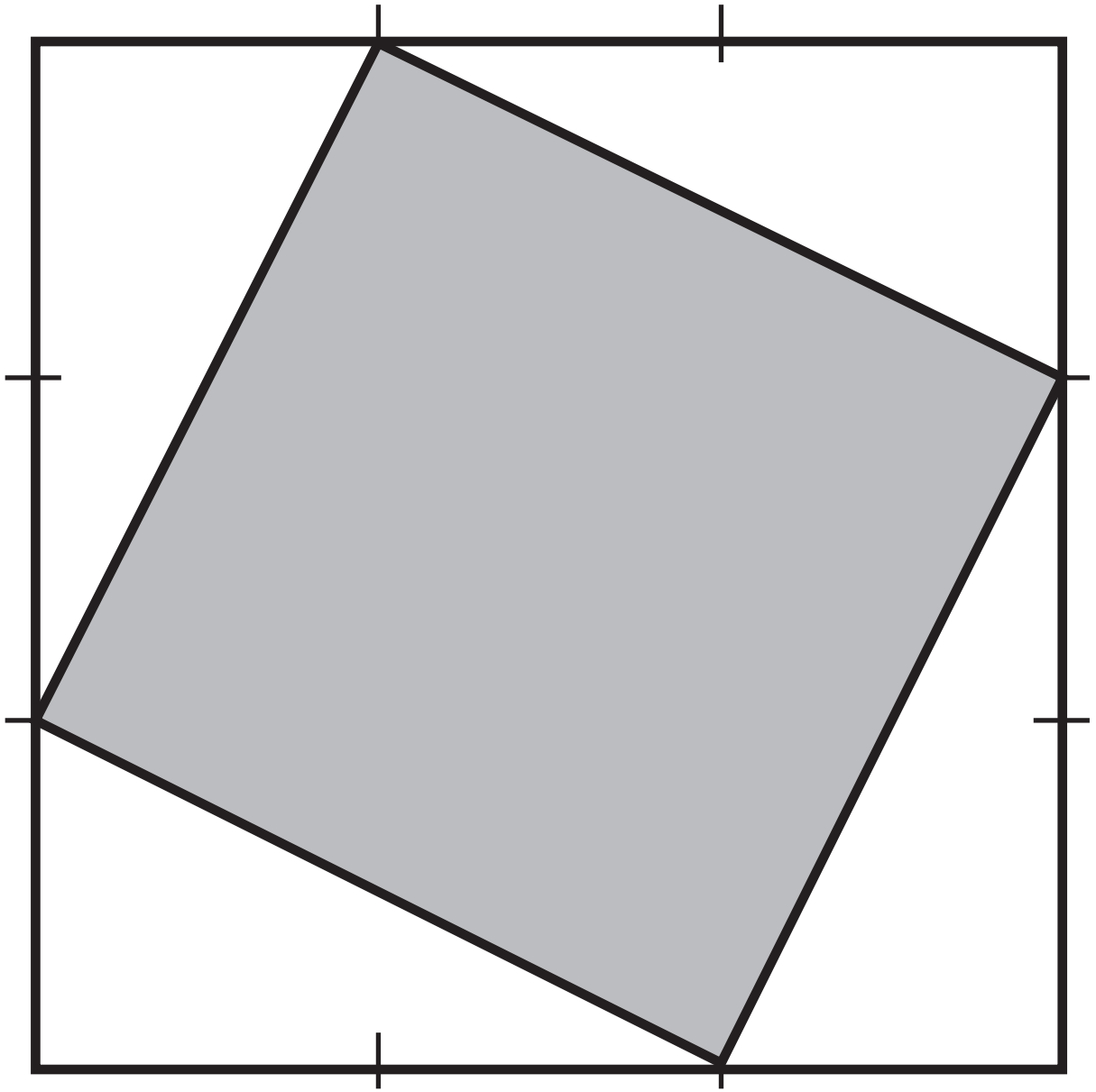

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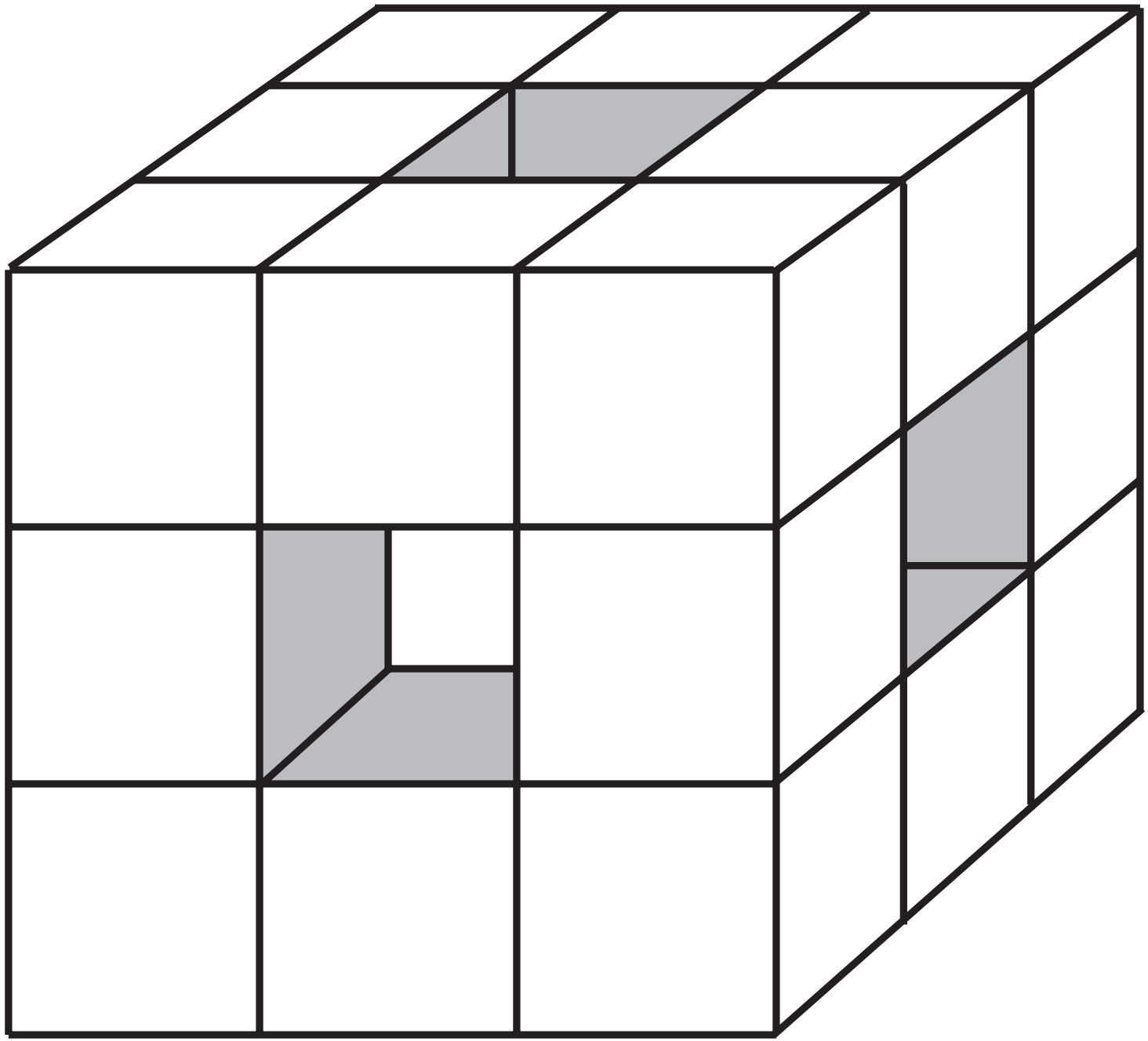

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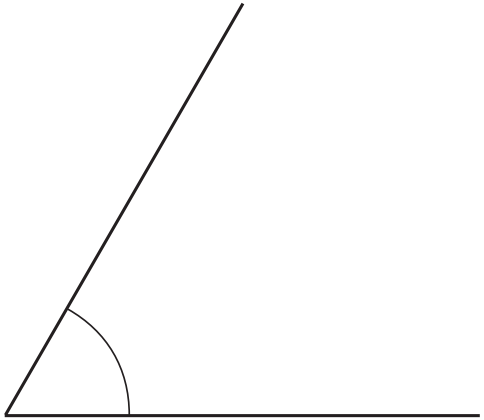

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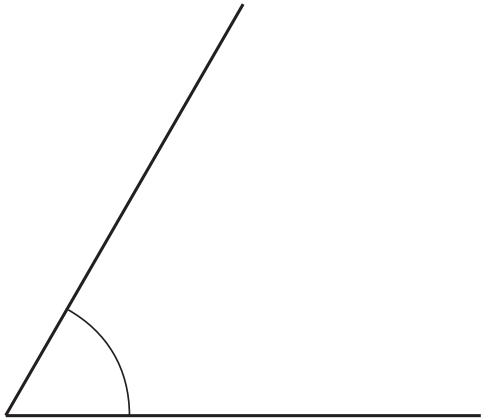

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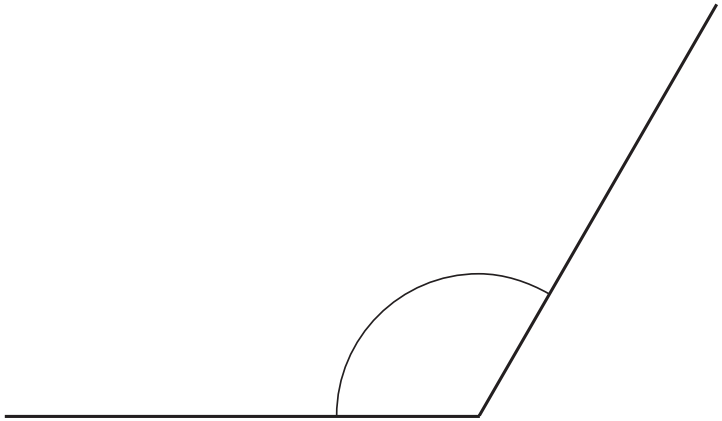

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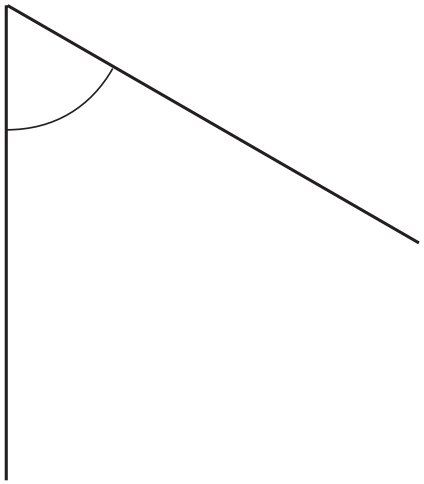

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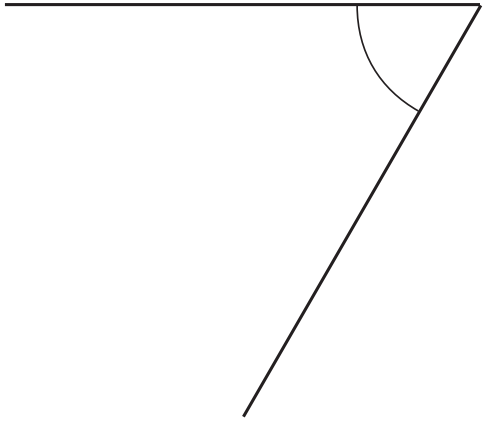

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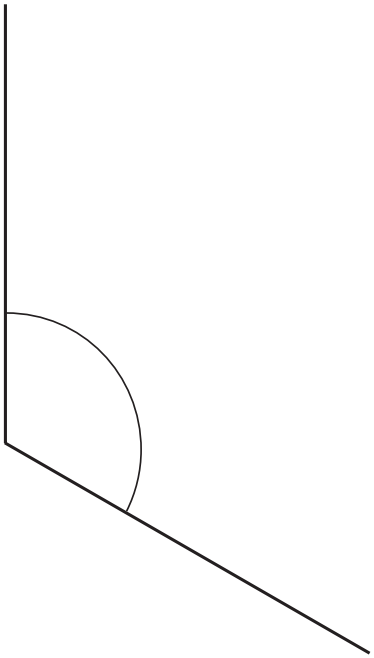

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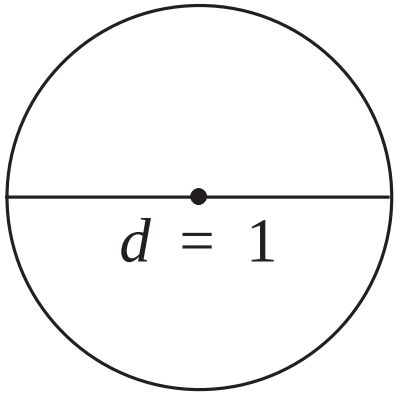
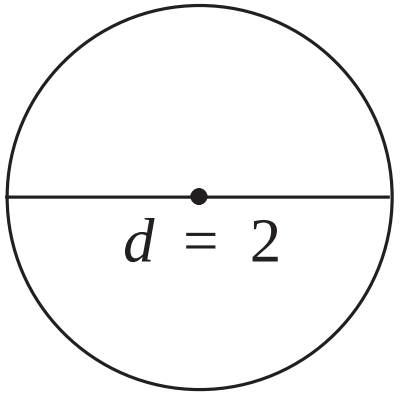
a)



$P \approx$

$P =$

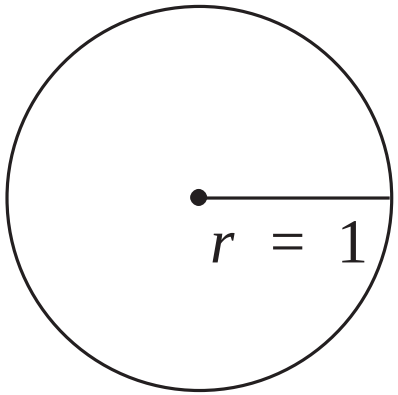
b)



$P \approx$

$P =$

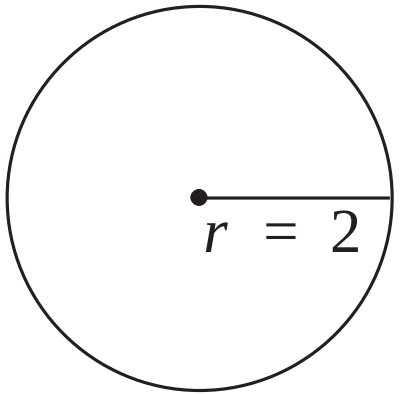
c)



$P \approx$

$P =$

d)



$P \approx$

P

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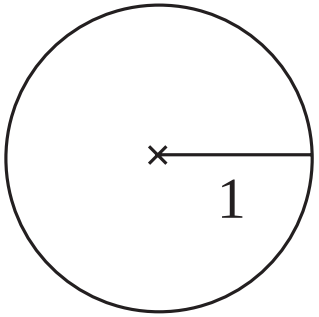
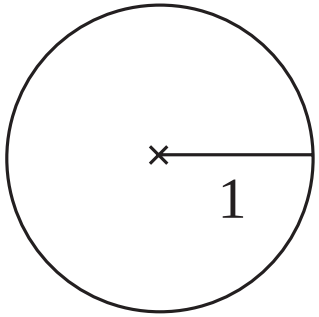
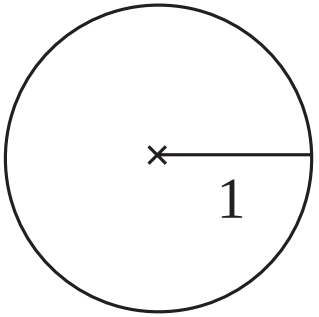
a) π



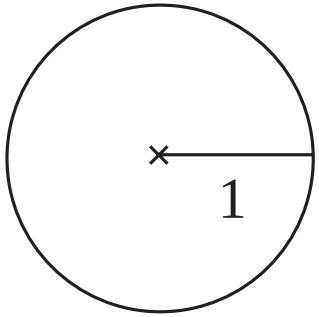
b) $\frac{\pi}{2}$



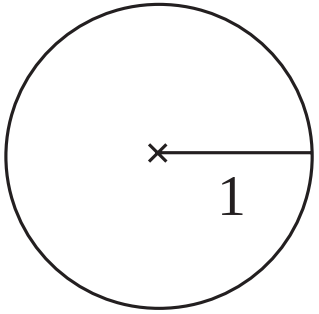
c) $\frac{\pi}{3}$



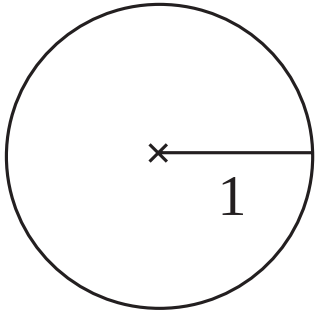
d) $\frac{\pi}{4}$



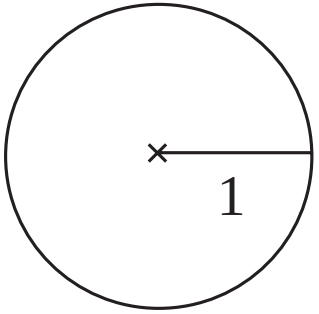
e) $\frac{\pi}{6}$



f) $\frac{3}{4}\pi$



g) $\frac{3}{2}\pi$



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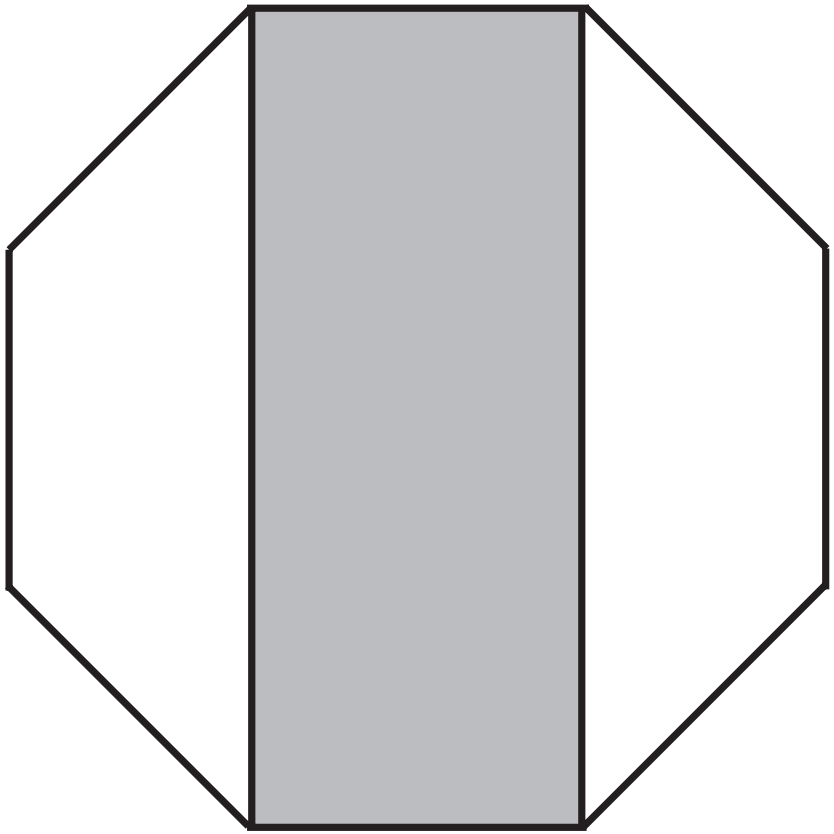

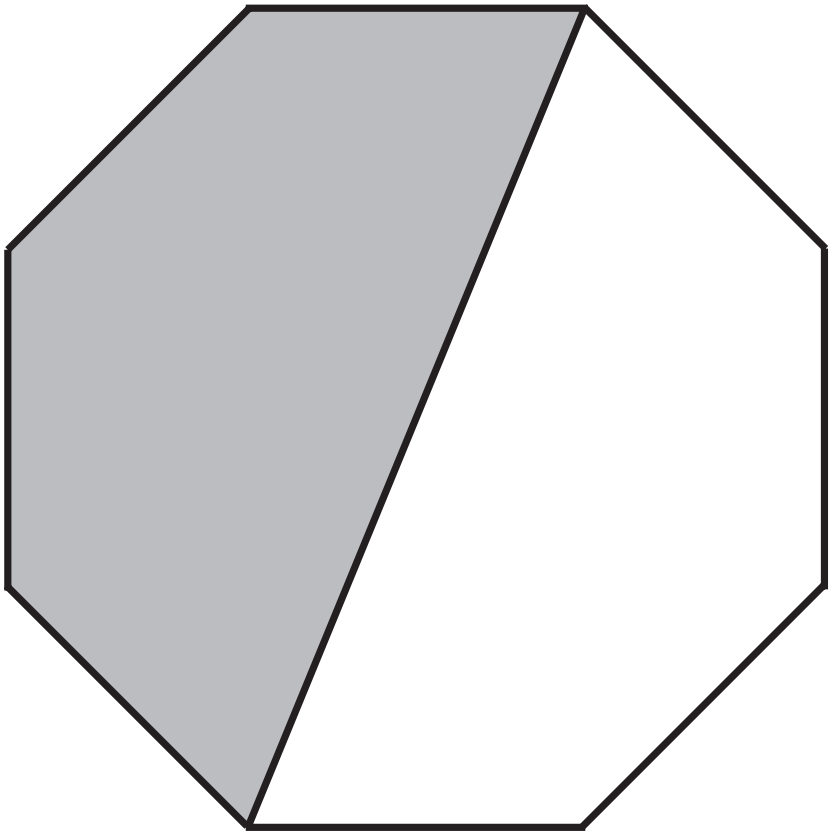

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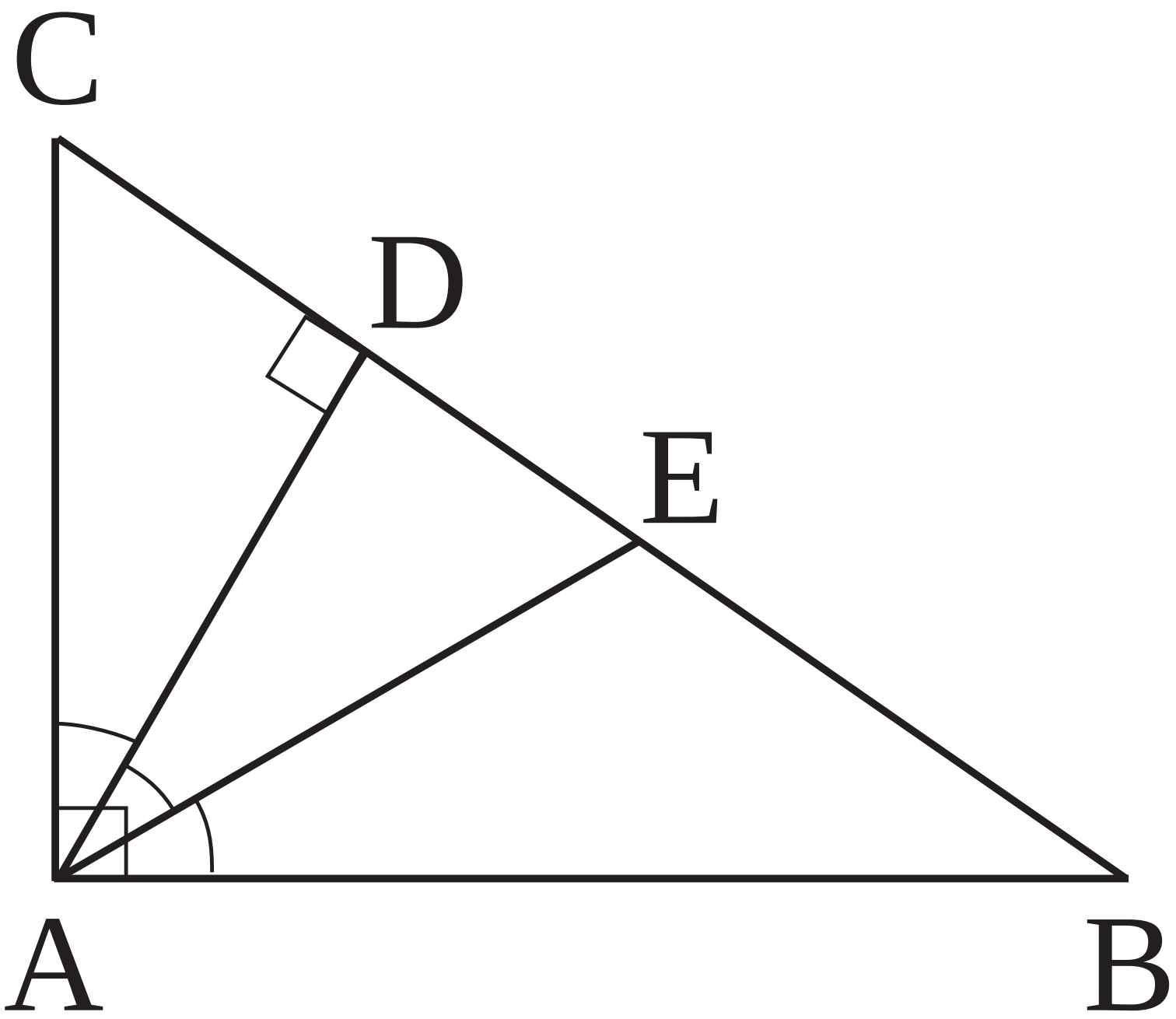

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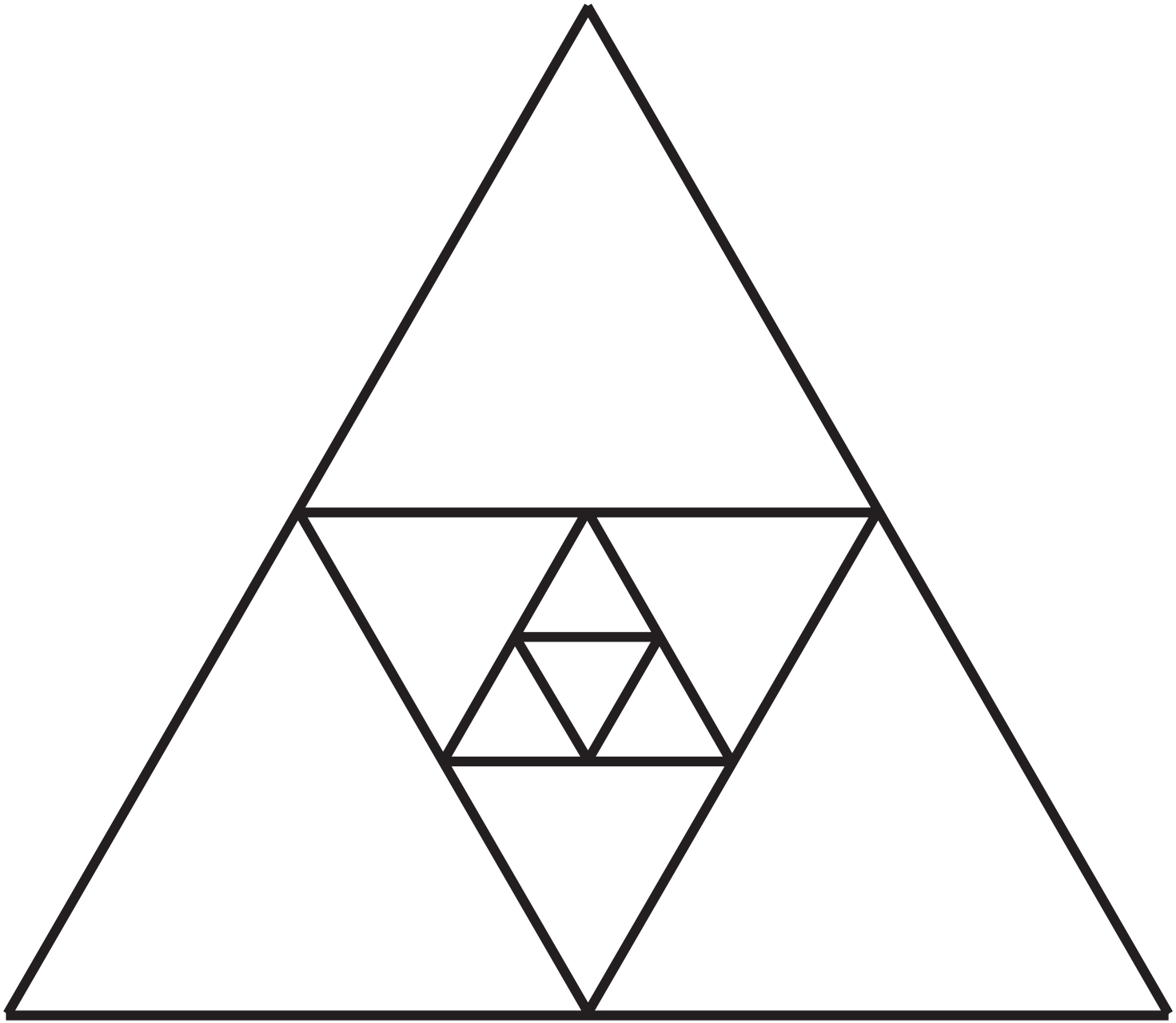

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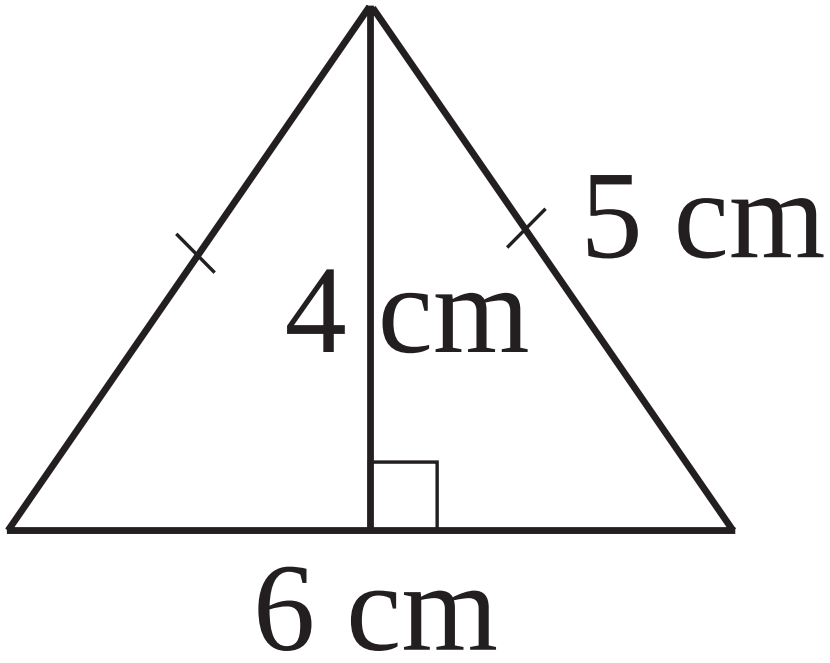
a)

b)

c)



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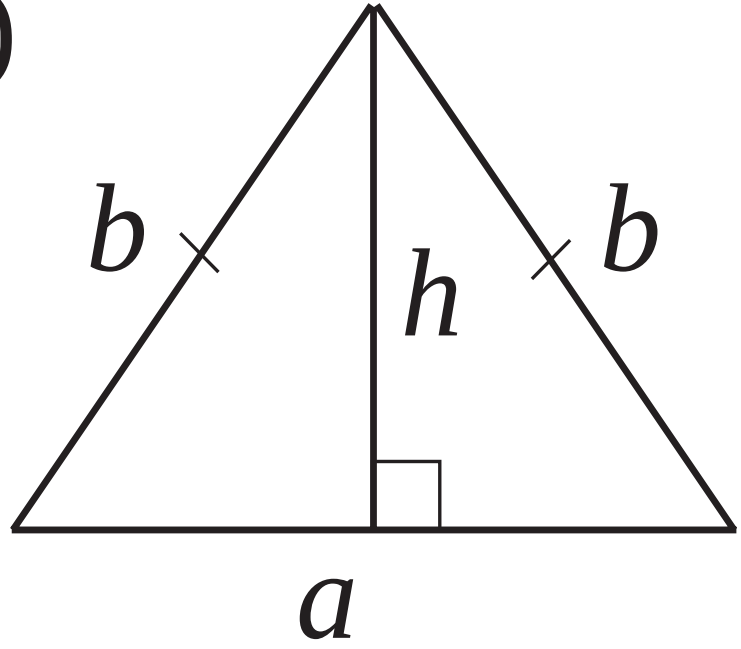

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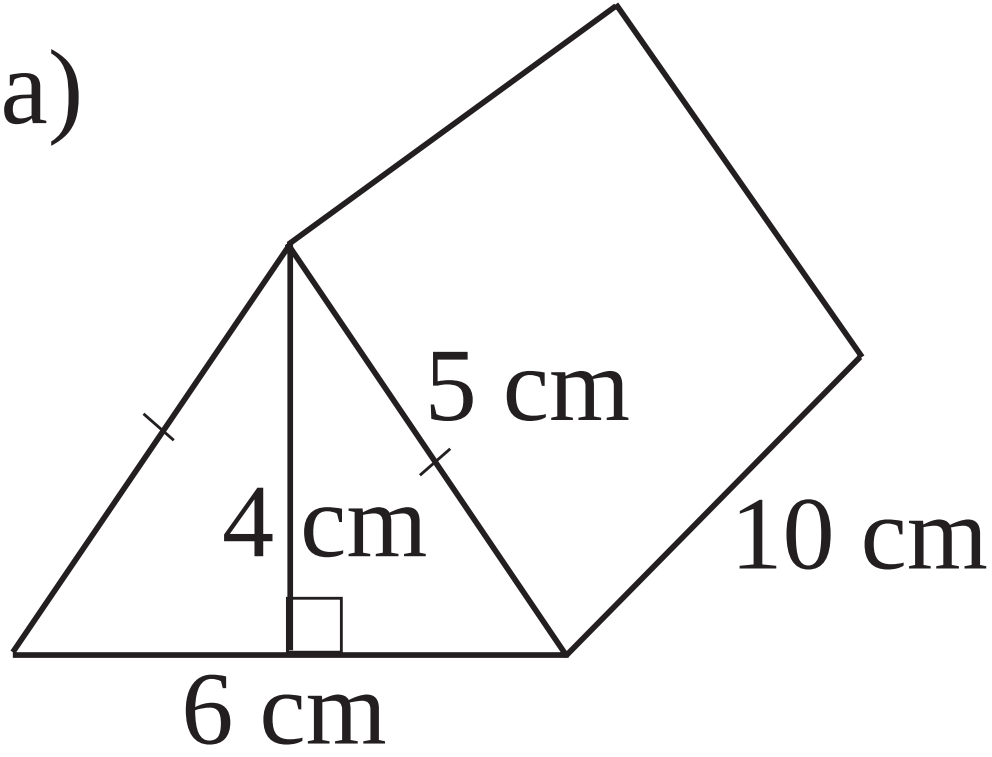
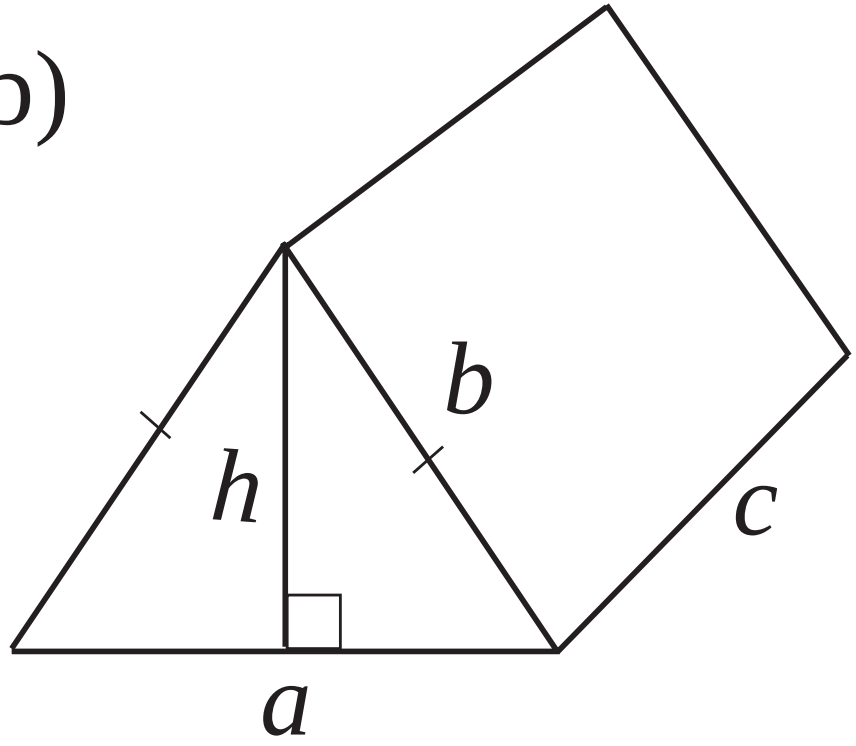
a)



b)



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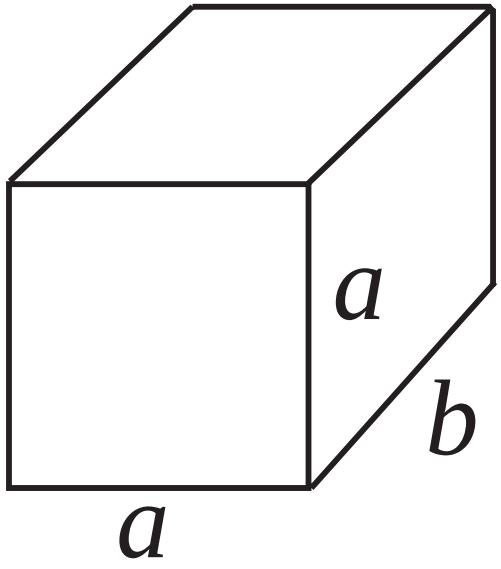

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a) 2π

b) $\frac{5\pi}{4}$

c) $\frac{2\pi}{3}$

d) $\frac{5\pi}{6}$

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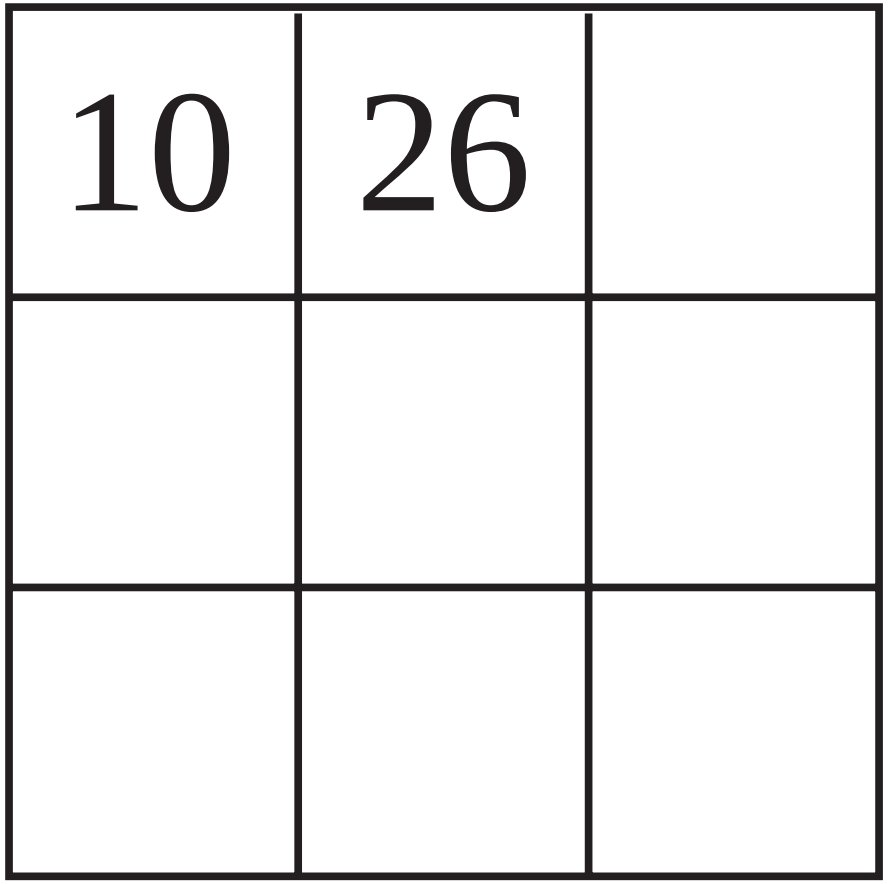

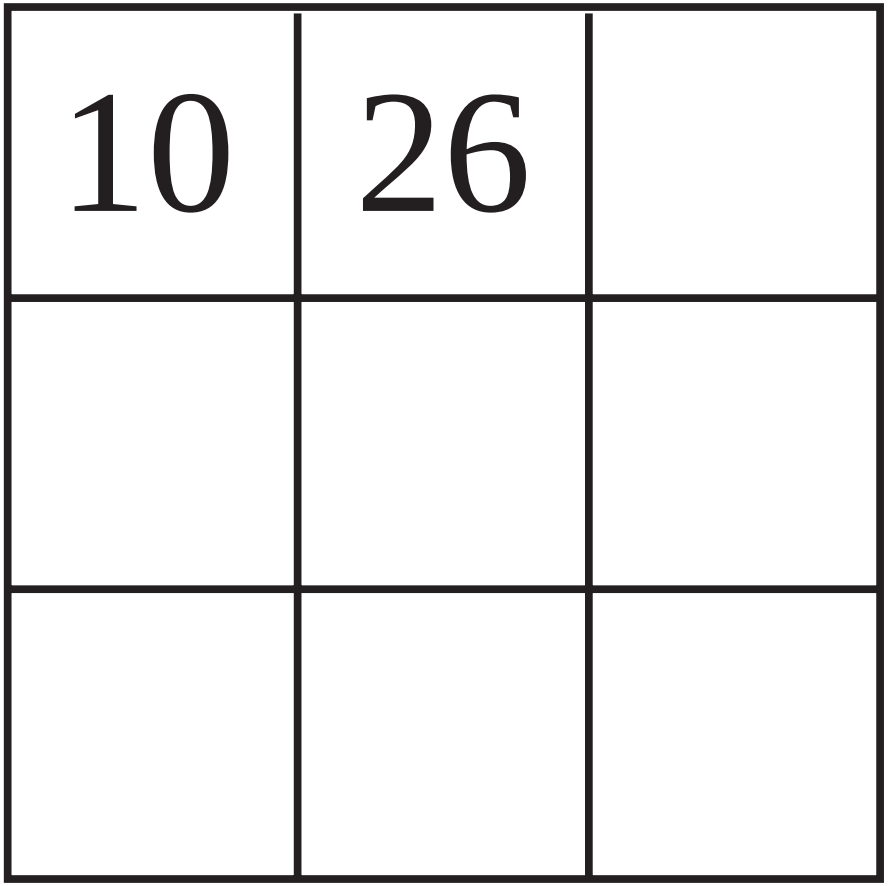

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a) The **product** of two numbers can be less than each of the two numbers. ☐

b) The **arithmetic mean** of two negative numbers can be positive. ☐

c) There is an **isosceles** triangle which has two right angles. ☐

d) There is a positive fraction less than 1 which is equal to its **reciprocal.** ☐

e) If a **product** is zero, at least one of its factors is zero. ☐

f) If the areas of two triangles are equal, the triangles are **congruent**. ☐

g) There is a quadrilateral which is both a **deltoid** and a **parallelogram** but is not a square. ☐

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a) $a + (-b) - (+c) - (-d) =$

b) $(a - b) \times c =$

c) $x \times y + x \times z =$

d) $(a - b) \div c =$

e) $u \div w + v \div w =$

f) $2 \times f + 3 \times f - 4 \times f =$

g) $6t - 4t - 9t =$

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h) $\dfrac{a \times c}{b \times c} =$

i) $\dfrac{a + b}{c} =$

j) $\dfrac{a}{b} - \dfrac{c}{d} =$

k) $\dfrac{a \times n}{n} =$

l) $\dfrac{a}{b} \times b =$

m) $\dfrac{a}{b} \div c =$

n) $\dfrac{a}{b} \times \dfrac{c}{d} =$

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a)

x	0	-1	$\frac{1}{2}$	2	$\frac{2}{3}$	$-\frac{1}{6}$	2.5	-4			
y	0	-3	$\frac{3}{2}$	6					$\frac{1}{2}$	0.6	$-\frac{3}{2}$

$y =$ $\qquad$ $x =$ $\qquad$ $\frac{y}{x} =$ $\qquad$ $(x \neq 0)$

b)

u	1	$-\frac{1}{2}$	2	$\frac{1}{3}$	-4	$\frac{1}{2}$			-3	-12		
v	4	-8	2	12			$\frac{3}{2}$	6			0	-1

$v =$ $\qquad$ $u =$ $\qquad$ $u \times v =$

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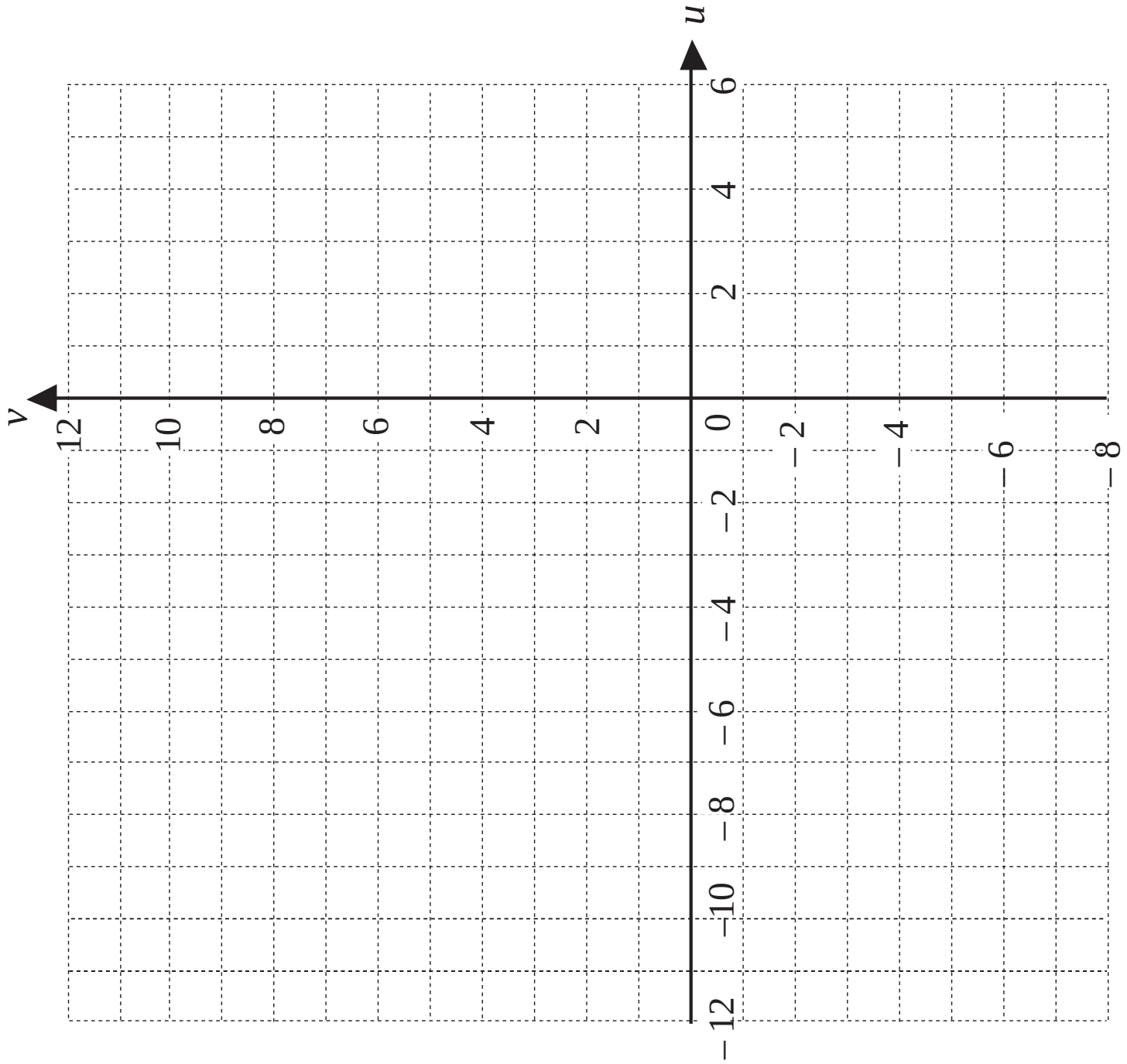

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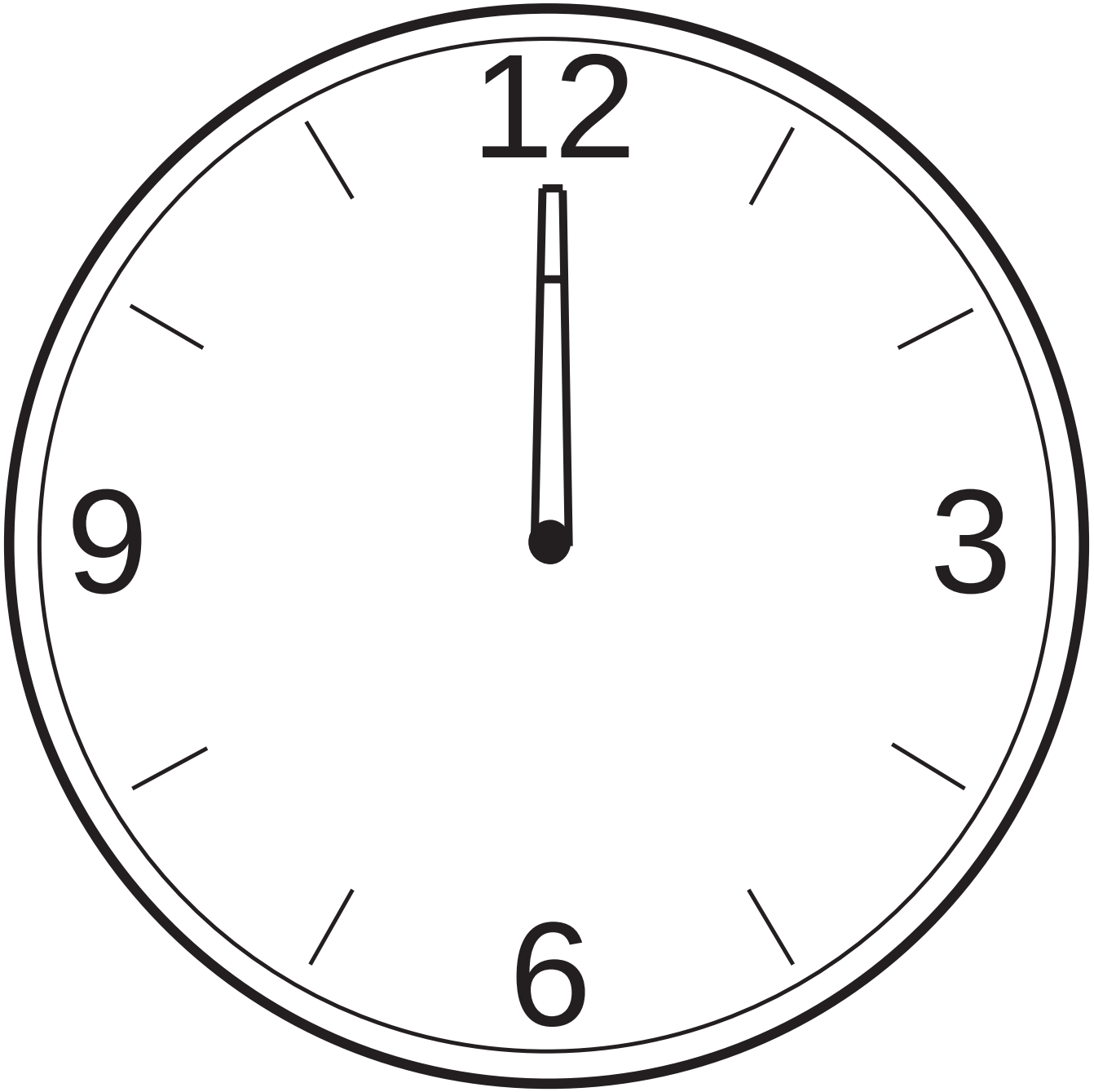

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a) If the areas of two rectangles are equal, the rectangles are **congruent**.

b) All equilateral triangles are **similar**.

c) The **arithmetic mean** of two numbers is always positive.

d) There is an **isosceles** triangle which has three equal angles.

e) The diagonals of a **parallelogram** intersect at right angles.

f) If the areas of two squares are equal, the squares are **congruent**.

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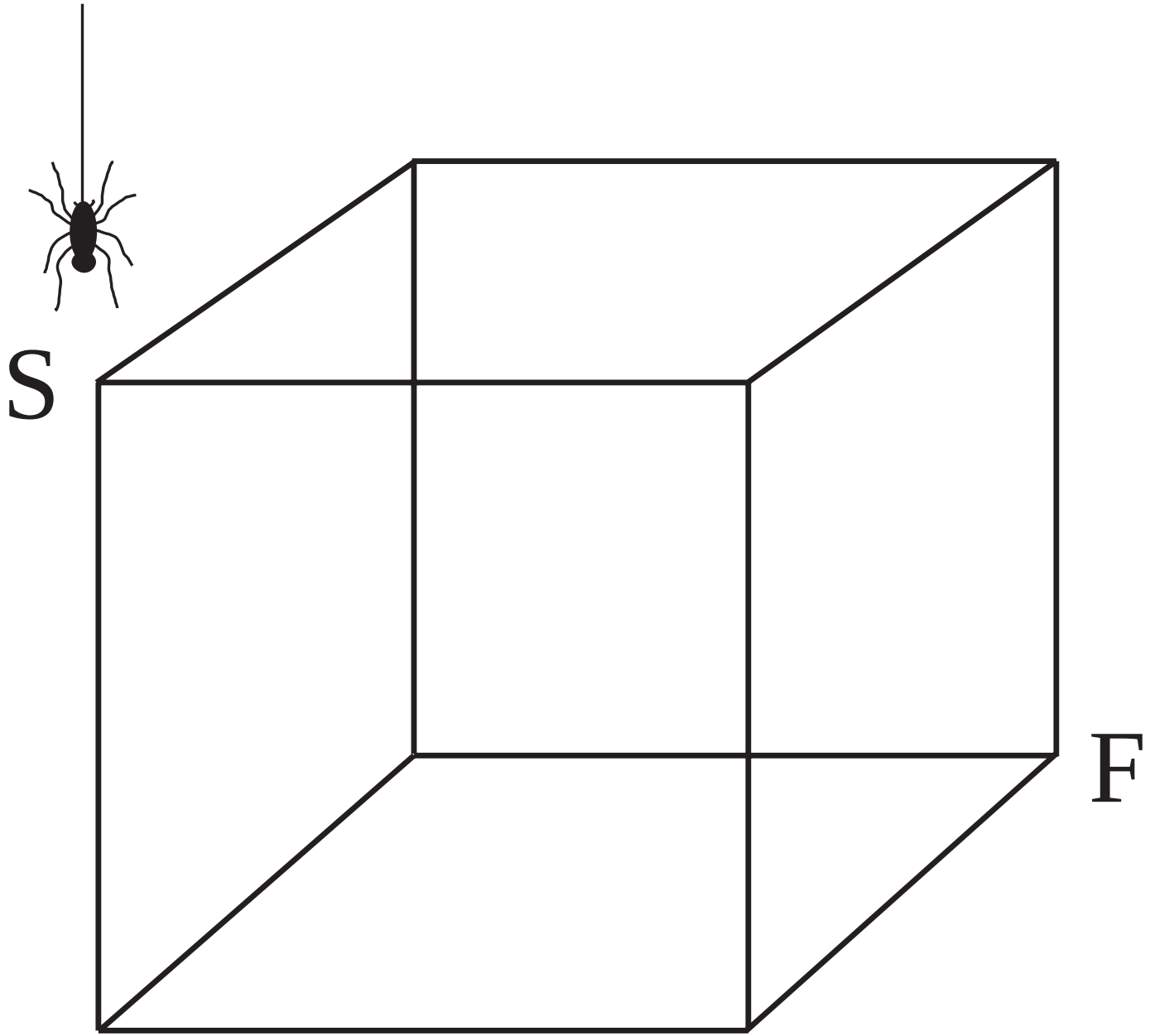

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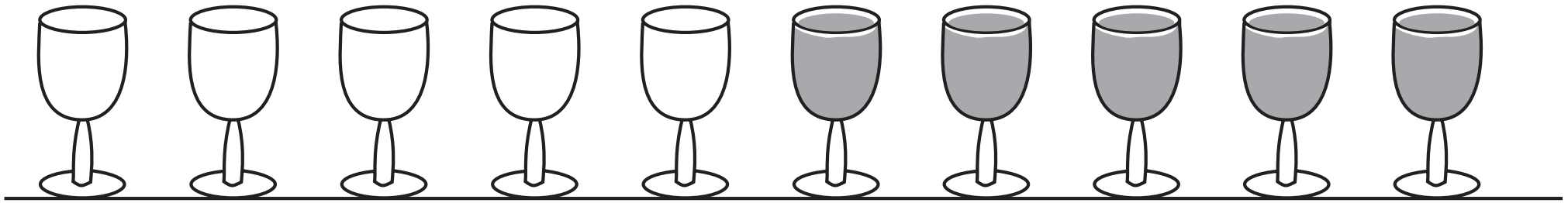
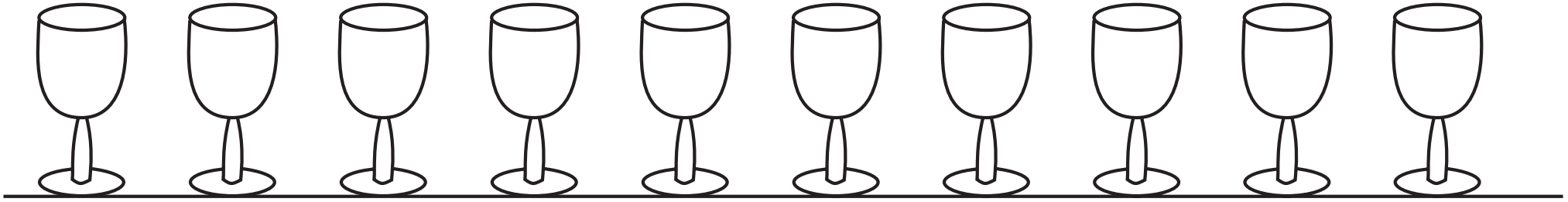


1 2 3 4 5 6 7 8 9 10

After action:



1 2 3 4 5 6 7 8 9 10

(Colour as appropriate)

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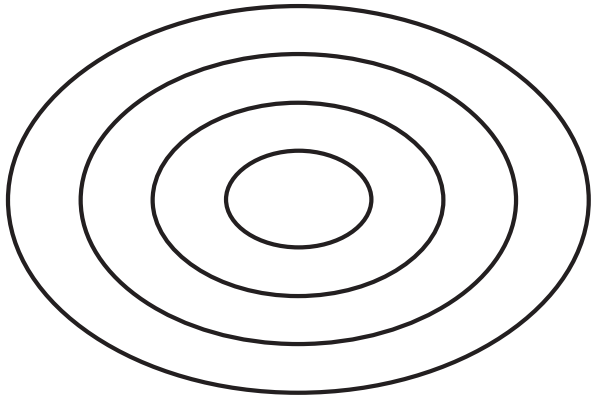
a)



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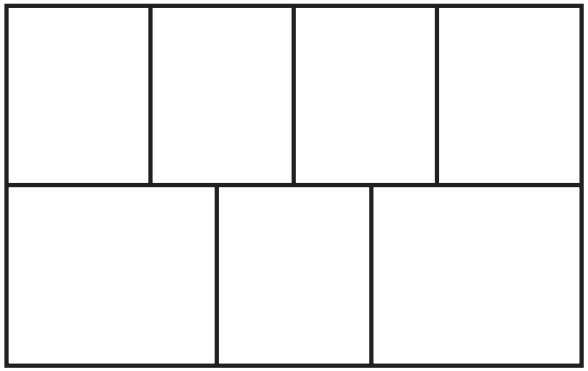
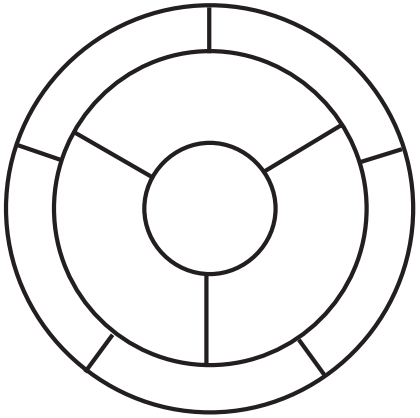
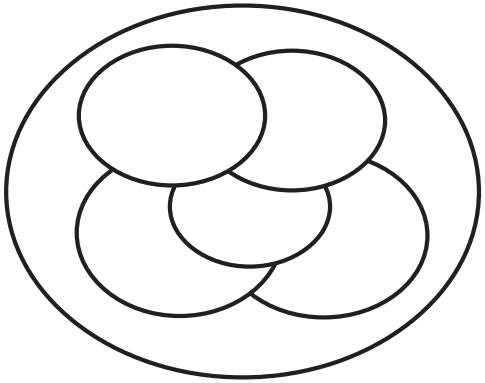


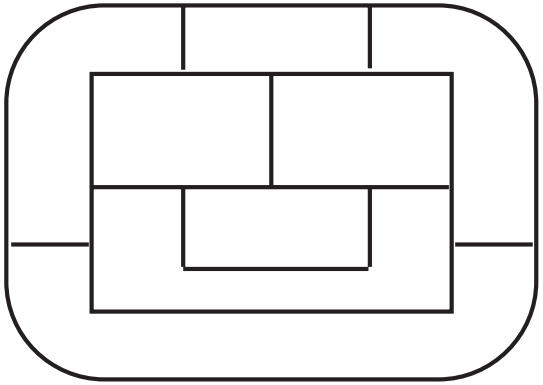
c)



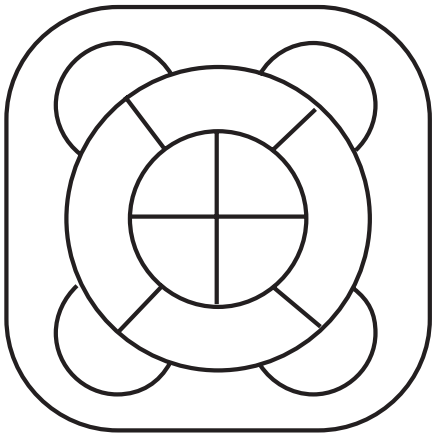
d)



e)



f)



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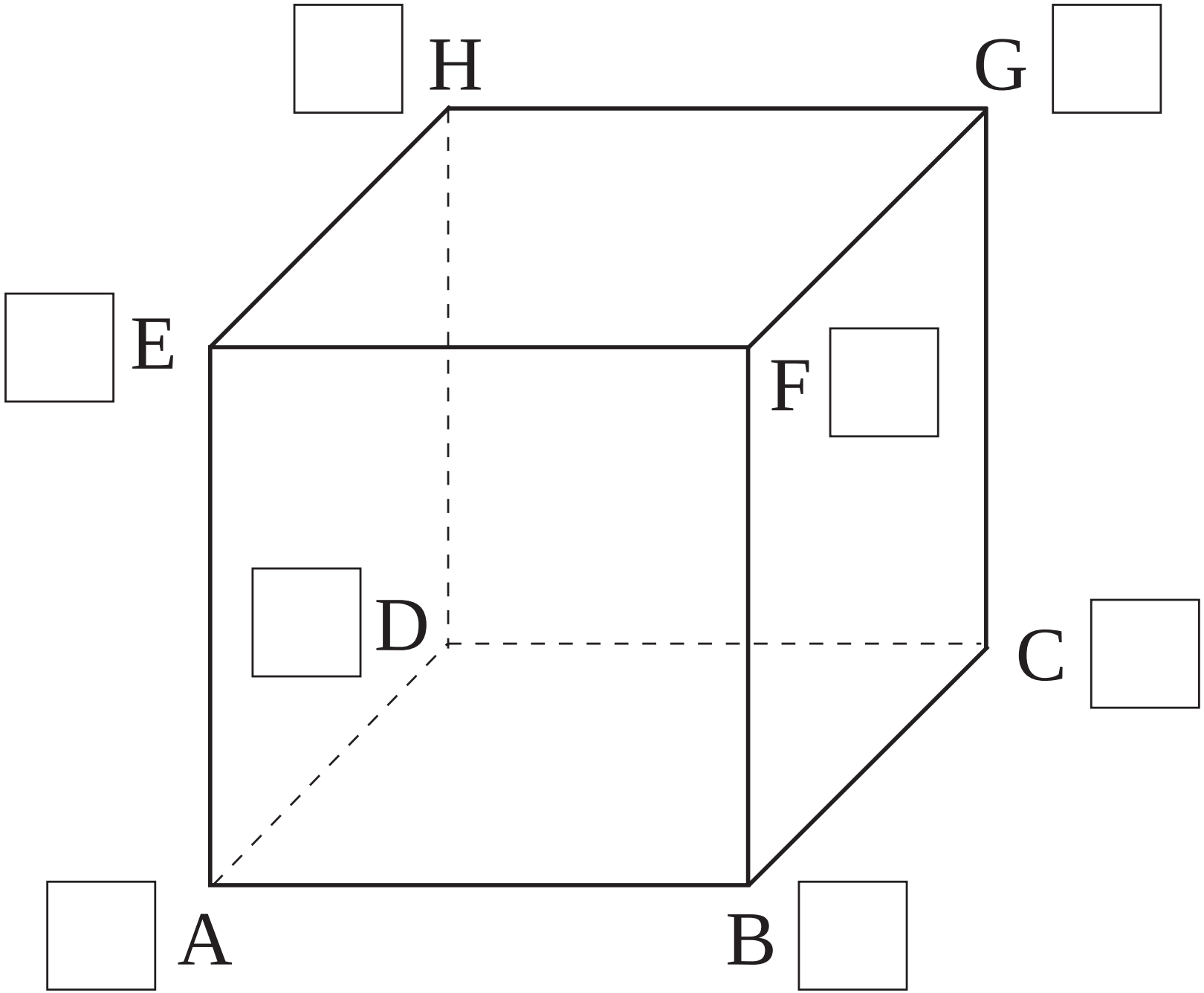

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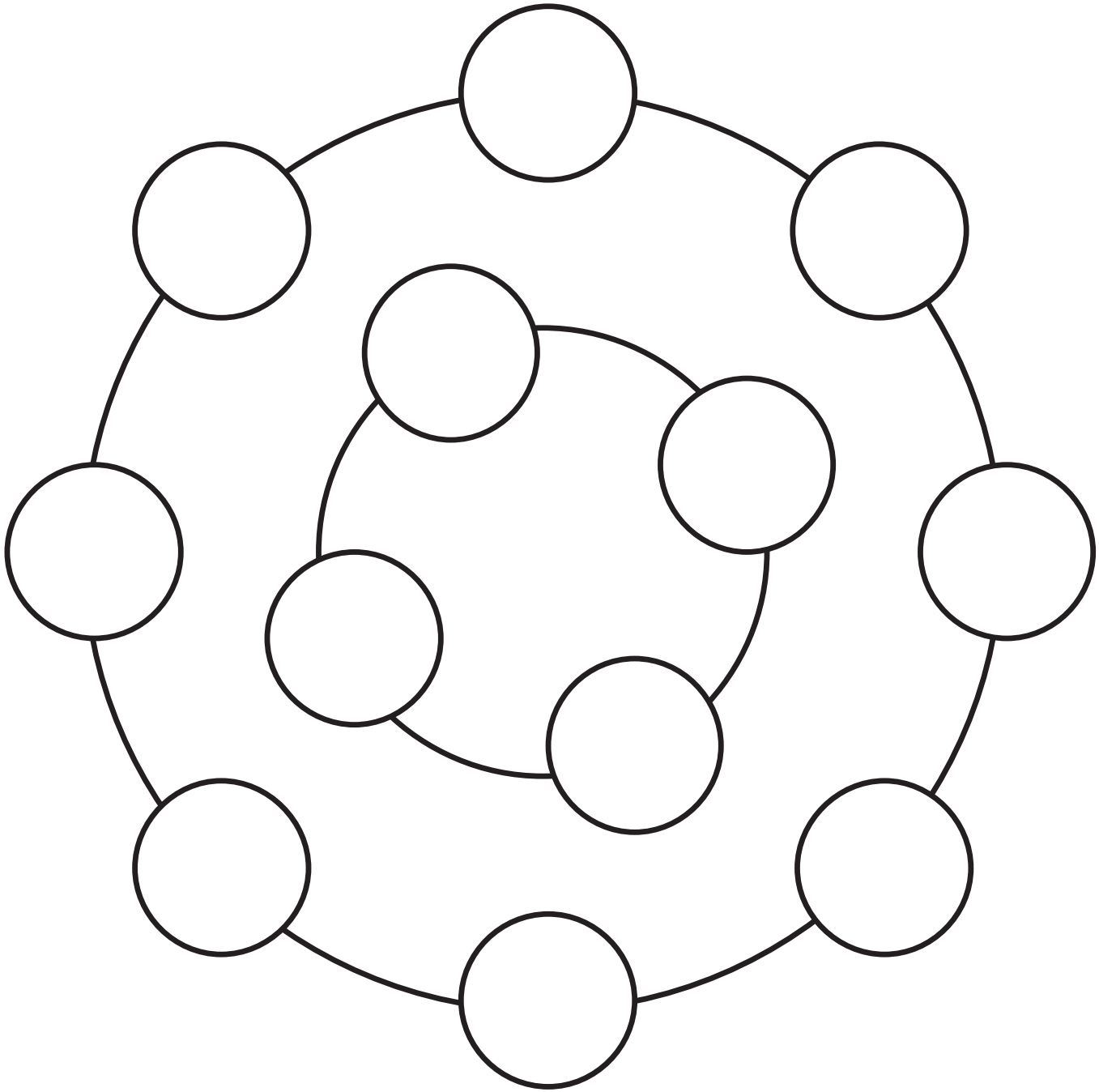

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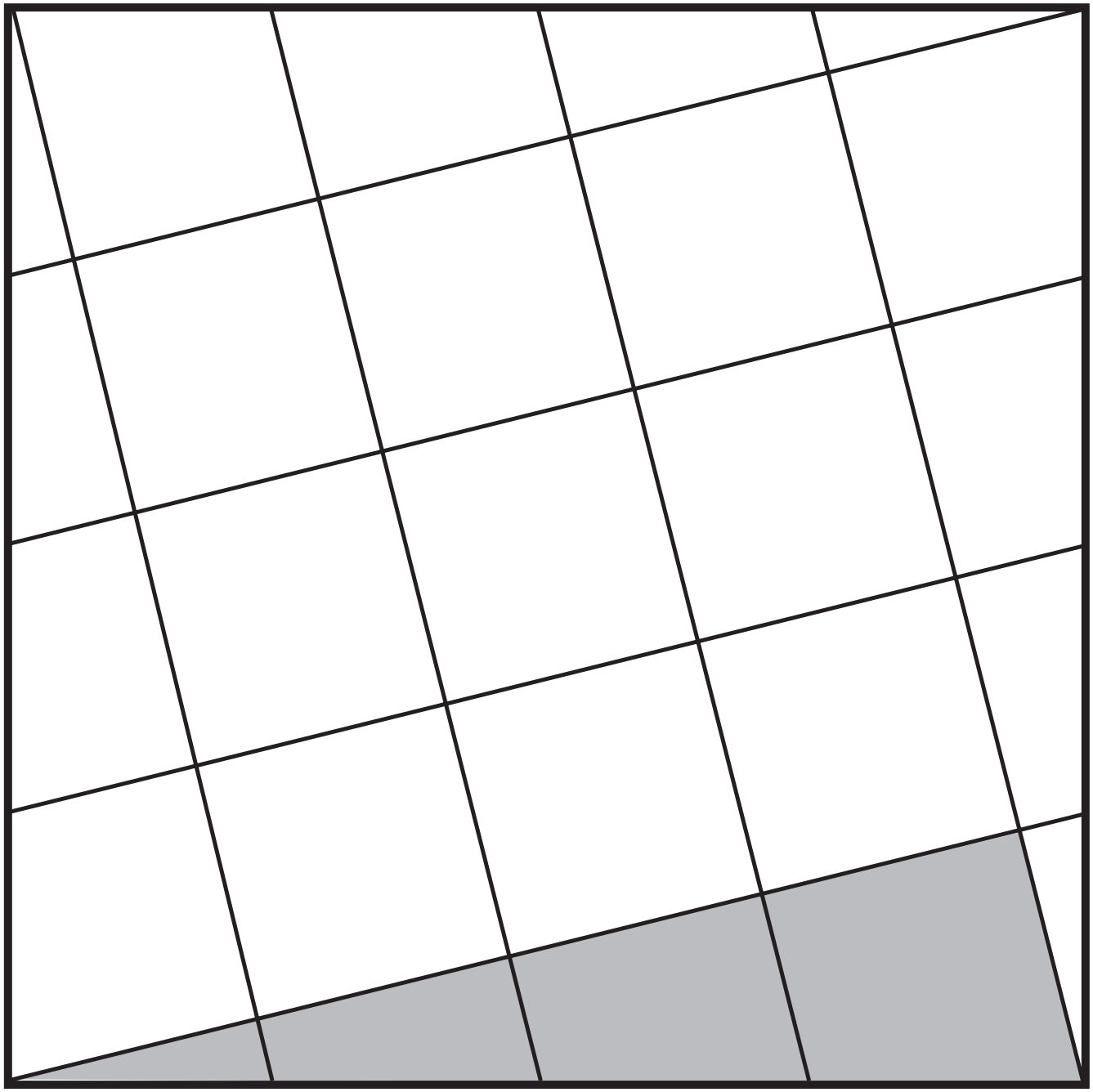

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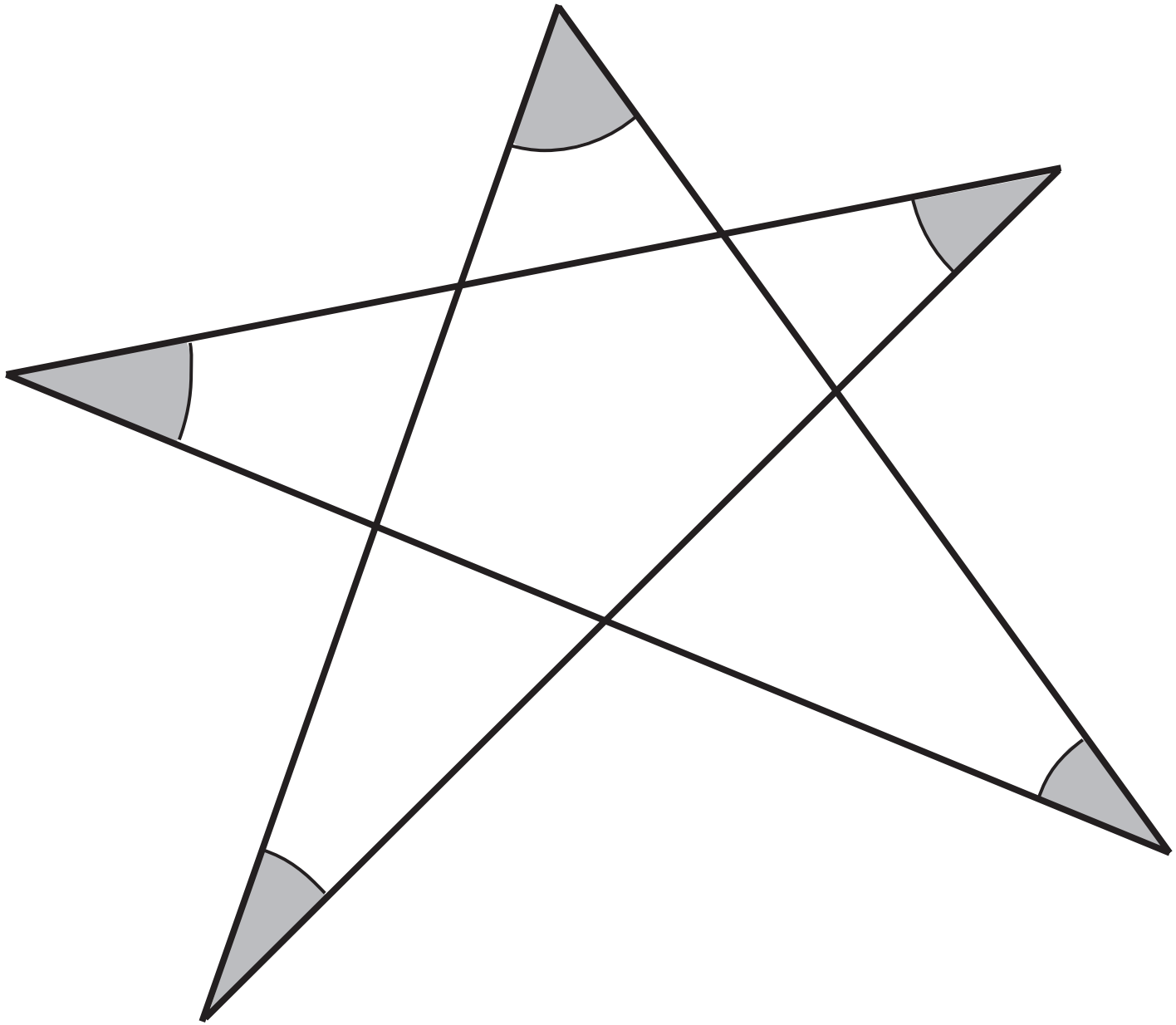

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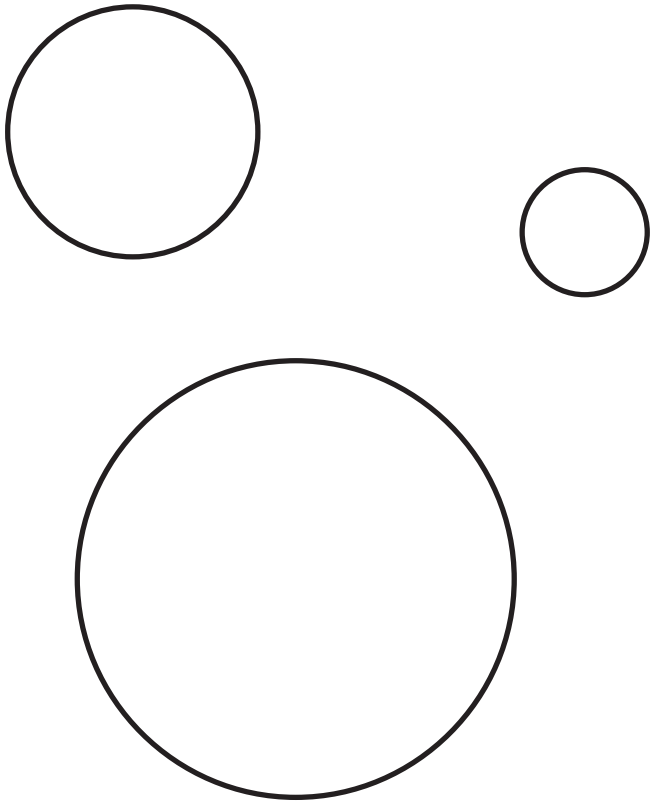

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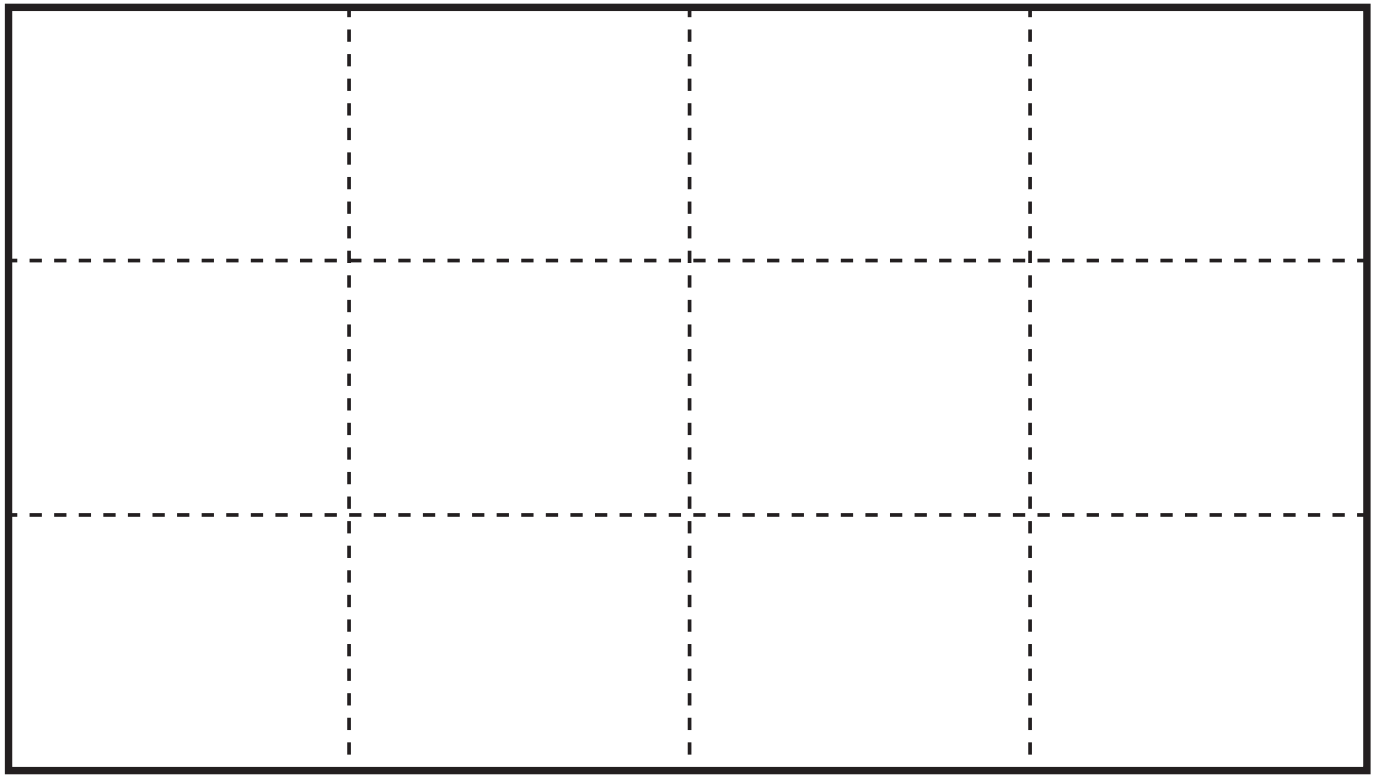

$b = 9$ cm

$a = 16$ cm

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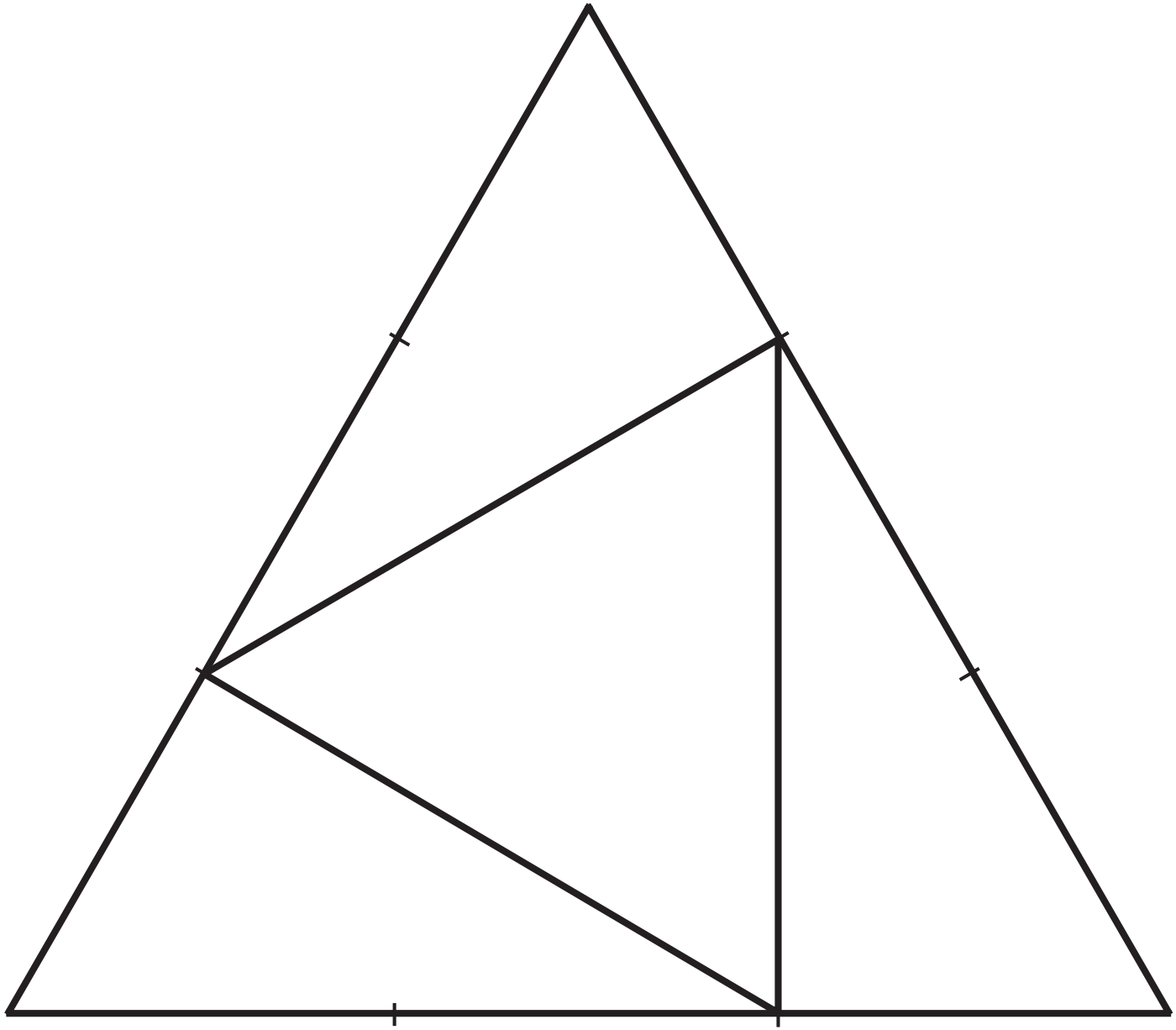

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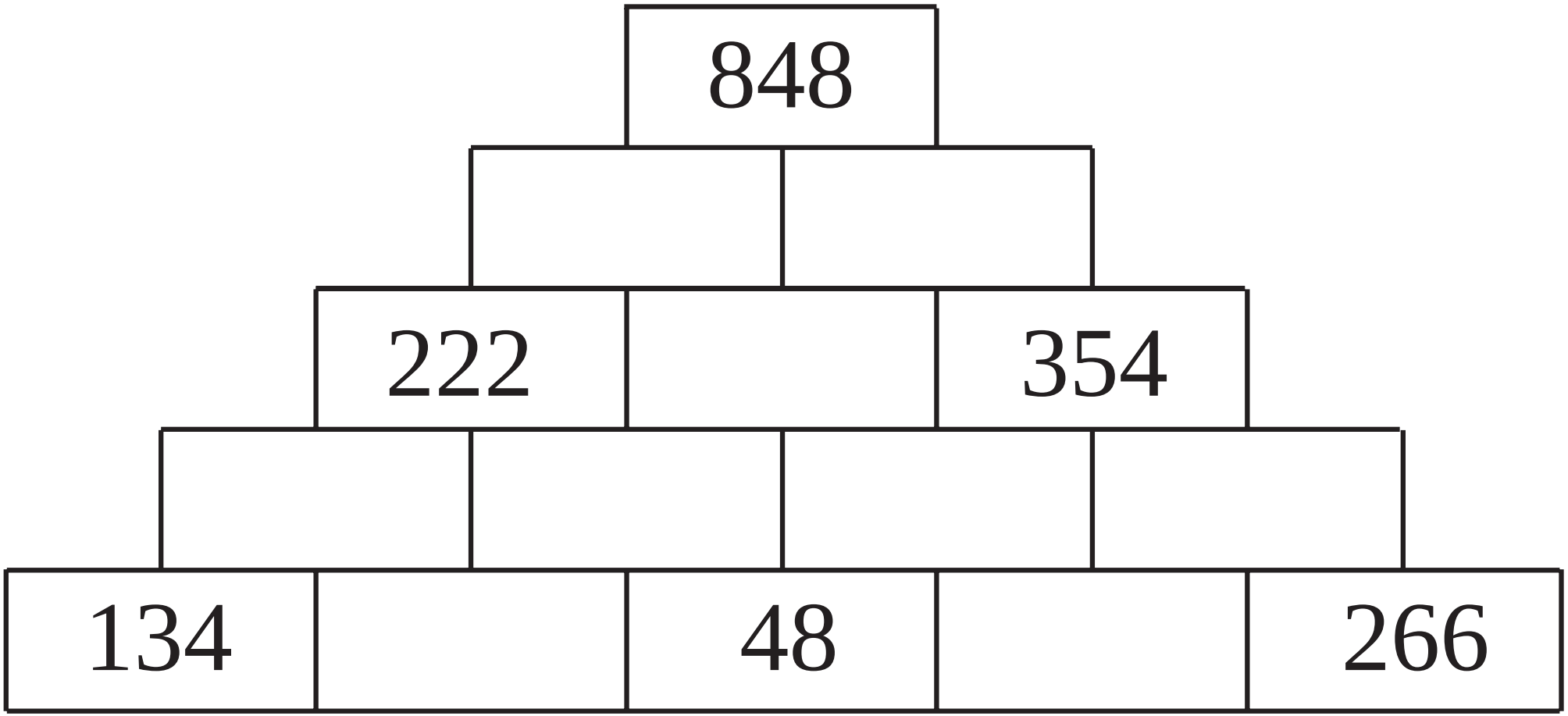

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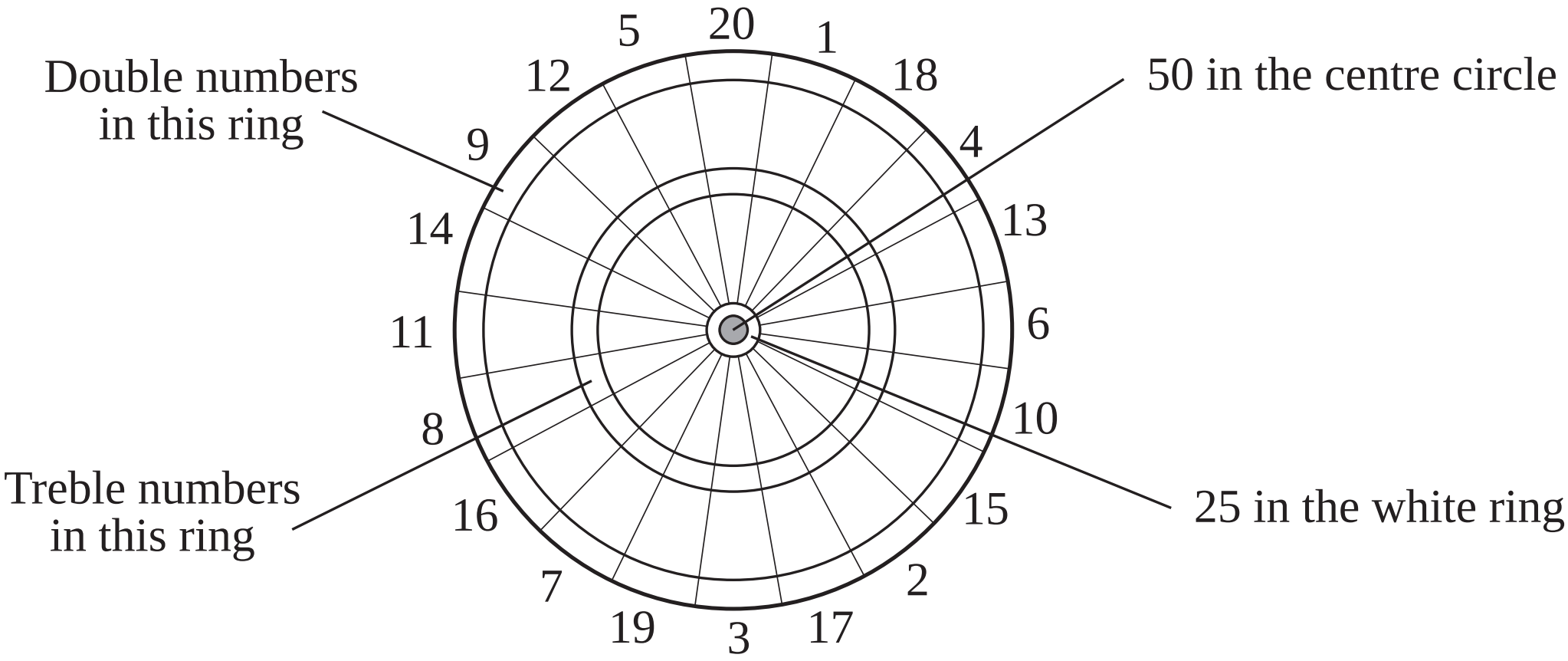

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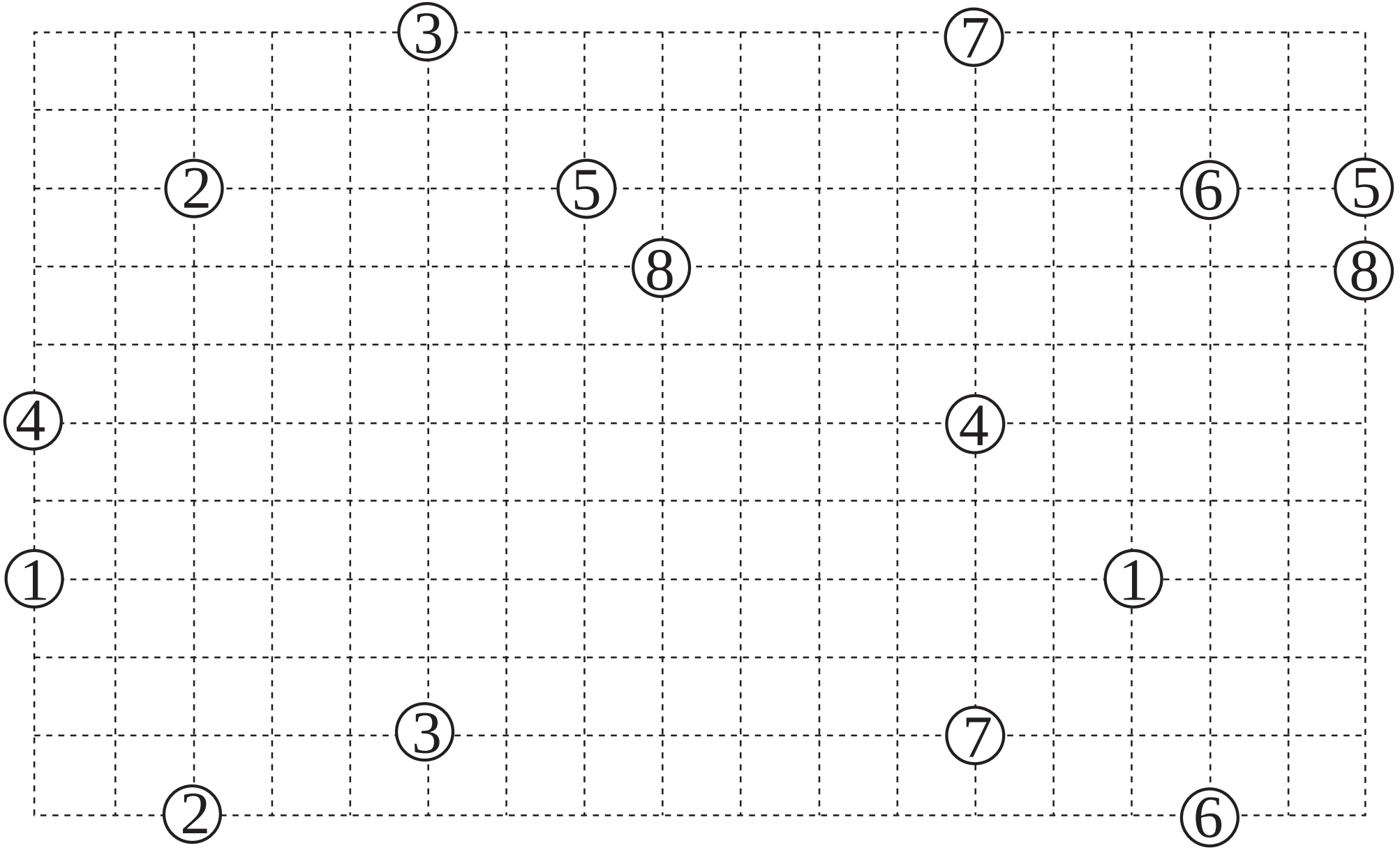

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