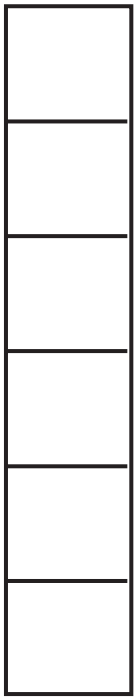
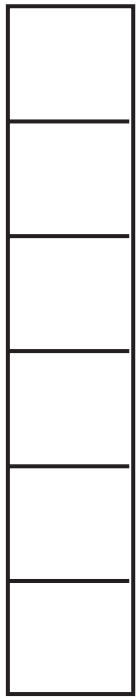
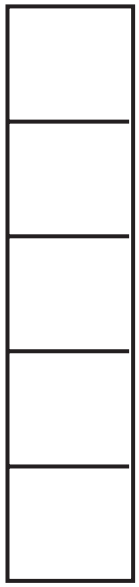
a) 1 unit = 

b) 3 units = 

c) 1 half = 

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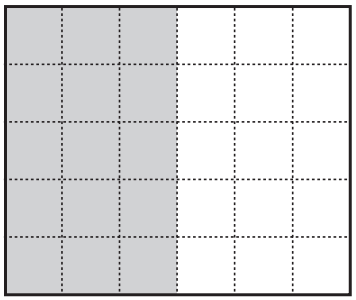
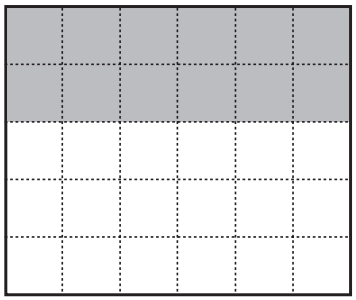
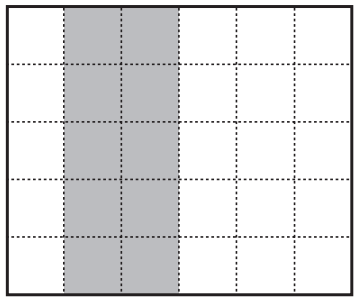
a) i)



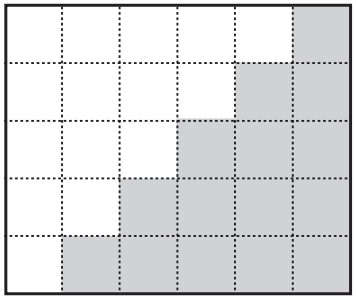
ii)



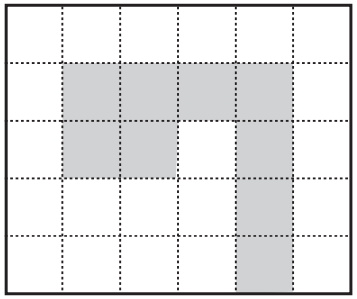
iii)



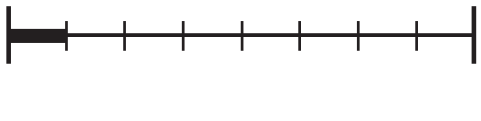
iv)



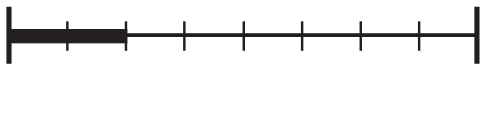
v)



b) i)



ii)



iii)

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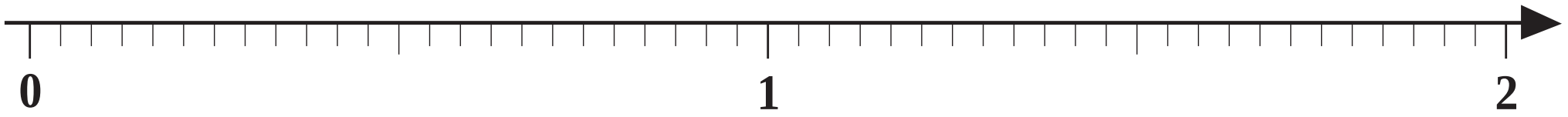
a) $\frac{1}{2}$ $\frac{3}{2}$ $\frac{2}{3}$ $\frac{3}{4}$ $\frac{5}{4}$ $\frac{4}{3}$ $\frac{7}{24}$ $\frac{16}{8}$ $\frac{5}{6}$ $1\frac{5}{12}$



b) $\frac{3}{4}$, $\frac{2}{11}$, $\frac{6}{5}$, $\frac{1}{3}$, $\frac{6}{7}$, $\frac{5}{10}$, $\frac{9}{6}$, $\frac{4}{5}$, $\frac{4}{3}$, $\frac{3}{2}$

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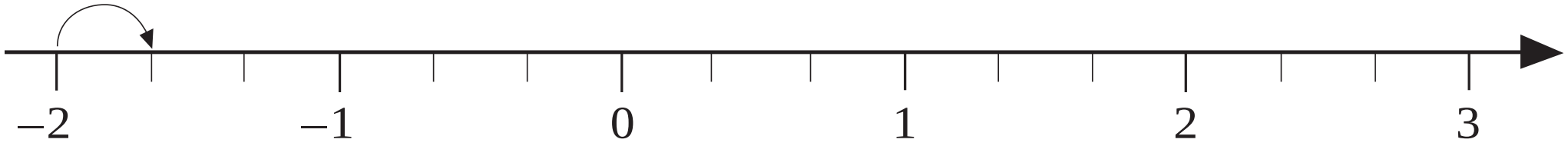
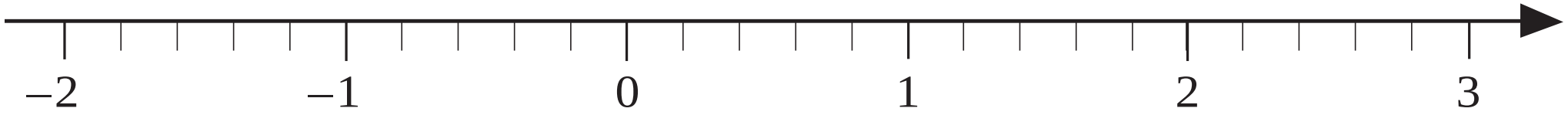
a)



b)



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a) i) $\frac{1}{6} \times 5 =$ ii) $\frac{1}{6} \times 3 =$

iii) $\frac{1}{6} \times 11 =$ v) $\frac{5}{6} \times 2 =$

b) i) $\left(3 + \frac{2}{5}\right) \times 4 =$

ii) $3\frac{2}{5} \times 4 =$

iii) $12\frac{3}{4} \times 5 =$

c) i) $\frac{6}{8} \div 2 =$ ii) $\frac{6}{8} \div 3 =$

iii) $\frac{14}{15} \div 7 =$ v) $\frac{24}{5} \div 4 =$

d) i) $\frac{1}{3} \div 2 =$ i) $\frac{3}{5} \div 2 =$

iii) $\frac{4}{9} \div 5 =$ iv) $\frac{25}{4} \div 3 =$

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a) $\frac{4}{5} = \frac{\square}{10} = \frac{12}{\square} = \frac{20}{\square} = \frac{\square}{60} = \frac{60}{\square} = \frac{88}{\square} = \frac{\square}{1000} = \frac{80}{\square} = \square.\square$

b) $\frac{7}{4} = \frac{14}{\square} = \frac{\square}{20} = \frac{49}{\square} = \frac{\square}{84} = \frac{210}{\square} = \frac{\square}{100} = \frac{\square}{1000} = \square.\square\square$

c) $8.16 = 8.\square\square\square = 8.\square\square\square\square = \frac{\square}{100} = \square\frac{\square}{100} = \frac{816}{\square}$

d) $\frac{7}{81} = \frac{\square}{72} = \frac{\square}{63} = \frac{\square}{54} = \frac{\square}{27} = \frac{\square}{18} = \frac{\square}{9} = \square.\square$

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a) $\frac{2}{5} = \frac{\square}{10} = \frac{20}{\square} = \frac{6}{\square} = \frac{\square}{20} = \frac{\square}{35} = \frac{18}{\square} = \frac{\square}{100} = \frac{\square}{75} = \frac{\square}{1000}$

b) $\frac{14}{10} = \frac{7}{\square} = \square.\square = \frac{\square}{30} = \square\frac{2}{\square} = 1\frac{\square}{100} = \frac{\square}{50} = \frac{70}{\square} = \square\frac{40}{\square}$

c) $2.03 = 2.\square\square\square = 2.\square\square\square\square = \frac{\square}{100} = \square\frac{\square}{100} = \frac{2030}{\square}$

d) $\frac{60}{72} = \frac{\square}{36} = \frac{\square}{24} = \frac{\square}{18} = \frac{\square}{12} = \frac{\square}{9} = \frac{\square}{6}$

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a) i) $\frac{1}{8} + \frac{5}{8} =$

ii) $\frac{2}{10} + \frac{7}{10} + \frac{3}{10} =$

iii) $\frac{6}{7} - \frac{2}{7} =$

iv) $\frac{4}{5} + \frac{7}{5} - \frac{9}{5} =$

b) i) $1\frac{4}{5} + 2\frac{1}{5} + 8\frac{3}{5} =$

ii) $3 - \frac{7}{12} =$

iii) $2\frac{4}{9} + \frac{2}{9} - 1\frac{5}{9} =$

iv) $5\frac{3}{8} - 3\frac{5}{8} =$

c) i) $\frac{1}{2} + \frac{1}{4} =$

ii) $\frac{5}{6} + \frac{4}{3} =$

iii) $\frac{11}{12} + \frac{2}{3} - \frac{3}{4} =$

iv) $1\frac{3}{10} + \frac{4}{5} - \frac{3}{2} =$

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a) $\frac{1}{9} \times 9 =$

b) $\frac{1}{6} \times 1 =$

c) $\frac{1}{11} \times 5 =$

d) $\frac{4}{7} \times 7 =$

e) $\frac{3}{4} \times 2 =$

f) $\frac{7}{8} \times 4 =$

g) $\frac{5}{12} \times 3 =$

h) $\frac{7}{20} \times 10 =$

i) $3\frac{1}{4} \times 3 =$

j) $6\frac{1}{3} \times 6 =$

k) $8\frac{1}{2} \times 9 =$

l) $\frac{13}{10} \times 3 =$

m) $\frac{3}{8} \div 3 =$

n) $\frac{2}{13} \div 2 =$

o) $\frac{13}{20} \div 4 =$

p) $\frac{3}{5} \div 6 =$

q) $\frac{21}{20} \div 7 =$

r) $\frac{21}{20} \div 4 =$

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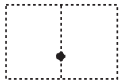
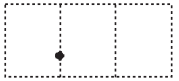
a) $\frac{4}{5} = \frac{\square}{10} = \frac{12}{\square} = \frac{20}{\square} = \frac{\square}{60} = \frac{60}{\square} = \frac{88}{\square} = \frac{\square}{1000} = \frac{80}{\square} =$ 

b) $\frac{7}{4} = \frac{14}{\square} = \frac{\square}{20} = \frac{49}{\square} = \frac{\square}{84} = \frac{210}{\square} = \frac{\square}{100} = \frac{\square}{1000} =$ 

c) $8.16 = 8.\square\square\square = 8.\square\square\square\square = \frac{\square}{100} = \square\frac{\square}{100} = \frac{816}{\square}$

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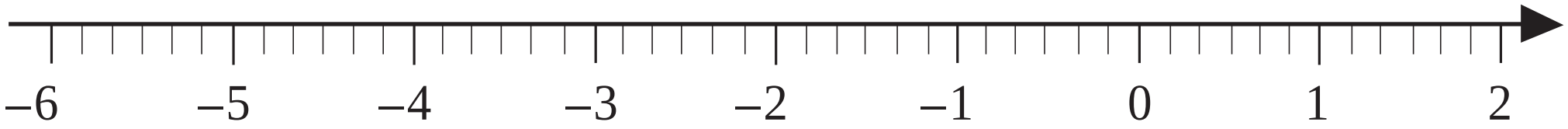
a) $\frac{160}{240} =$

b) $\frac{240}{160} =$

c) $-\frac{72}{12} =$

d) $-\frac{12}{72} =$



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a) $\frac{1}{2} - \left(\frac{1}{8} + \frac{1}{4}\right) =$

b) $\frac{2}{5} - \left(\frac{1}{10} - \frac{1}{20}\right) =$

c) $2\frac{5}{6} - \left(1\frac{1}{2} - \frac{2}{3}\right) =$

d) $3.16 - (1.2 + 0.5) =$

e) $4.03 - (2.1 - 0.8) =$

f) $3.18 - (0.6 - 1.2) =$

g) $\frac{3}{2} + \left(-\frac{5}{2}\right) =$

h) $\frac{5}{8} - \left(-\frac{1}{4}\right) =$

i) $-\frac{4}{9} - \left(-\frac{2}{3}\right)$

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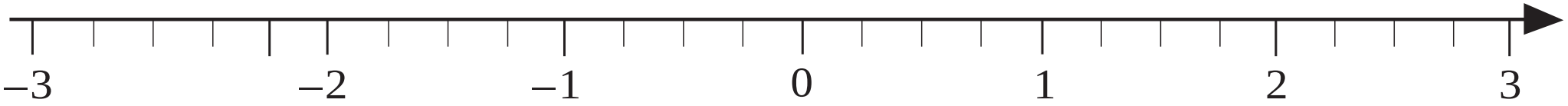
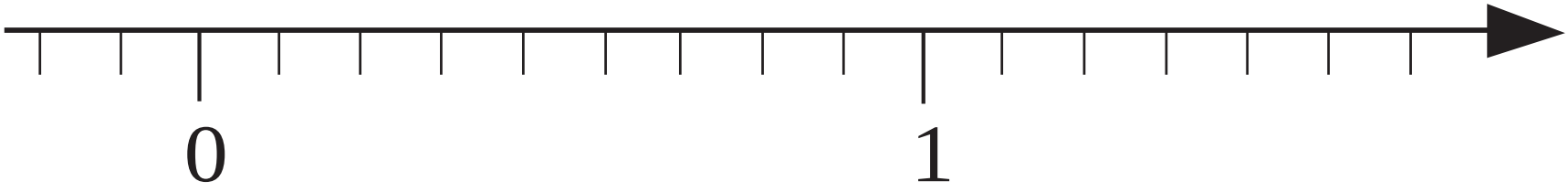
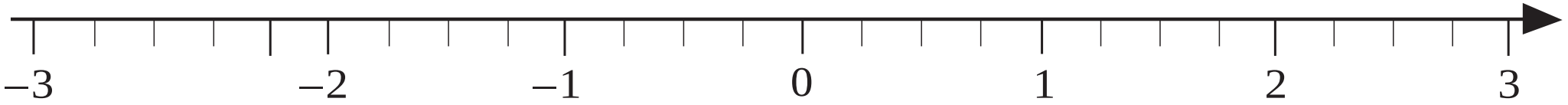
a) $+3$ 0 -2.25 $\frac{5}{2}$ -3 $+\frac{7}{4}$ $-\frac{5}{2}$ $+\frac{3}{4}$



b)



c)



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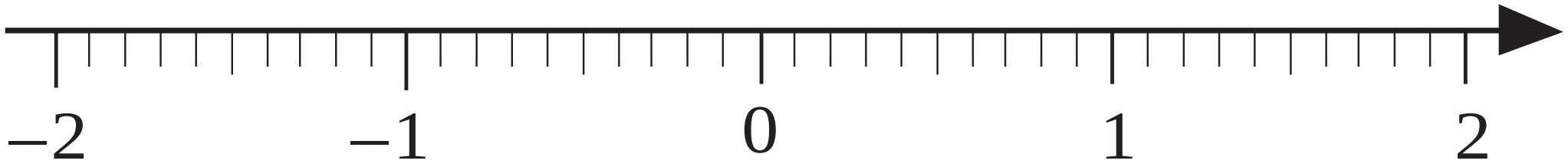
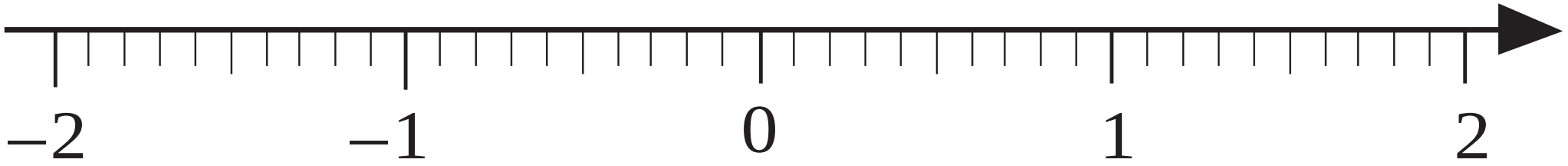
a) $x < 1\frac{3}{4}$



b) $x \leq 1\frac{3}{4}$



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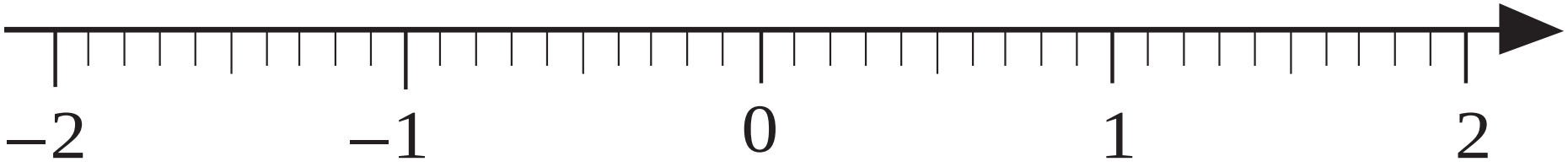
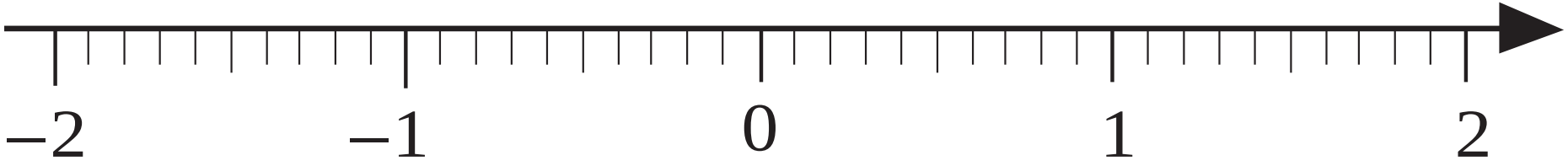
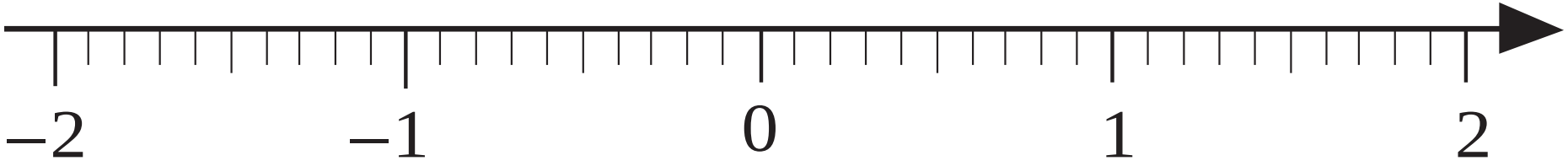
a) Numbers which are less than + 2 but are **not** less than (– 1.5).



b) $-1.5 \leq x < 2$, and x is a whole number



c) $-x < 1.2$



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a) i) $\frac{3}{5} + \frac{4}{5} =$

ii) $\frac{7}{15} - \frac{3}{15} =$

iii) $\frac{4}{9} + \frac{11}{9} - \frac{20}{9} =$

iv) $3\frac{3}{6} + 2\frac{2}{6} - 4\frac{1}{6} =$

b) i) $\frac{2}{5} + \frac{4}{15} =$

ii) $\frac{5}{28} + \frac{2}{7} - \frac{3}{14} =$

iii) $3\frac{5}{8} - \frac{7}{4} =$

iv) $4 - 2\frac{5}{9} =$

c) i) $13.4 - (10.25 - 5.6) =$

ii) $13.4 - 10.25 + 5.6 =$

d) i) $-5.6 - (+3.1) + (-4.5) - (-2.7) =$

ii) $-5.6 - 3.1 - 4.5 + 2.7 =$

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a) i) 0.27 =

ii) 0.46 =

iii) 10.35 =

iv) 103.5 =

b) i) 0.25 =

ii) 0.50 =

iii) 0.75 =

iv) 7.25 =

c) i) 0.125 =

ii) 0.375 =

iii) 0.625 =

iv) 0.875 =

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a) $\frac{1}{2} =$ $\frac{2}{2} =$ $\frac{3}{2} =$ $5\frac{1}{2} =$ $-16\frac{1}{2} =$

b) $\frac{1}{4} =$ $\frac{2}{4} =$ $\frac{3}{4} =$ $\frac{4}{4} =$ $\frac{135}{4} =$

c) $\frac{1}{8} =$ $\frac{3}{8} =$ $\frac{5}{8} =$ $\frac{6}{8} =$ $\frac{7}{8} =$

d) $\frac{1}{5} =$ $\frac{2}{5} =$ $\frac{3}{5} =$ $\frac{4}{5} =$ $\frac{9}{5} =$

e) $\frac{1}{3} =$ $\frac{2}{3} =$ $\frac{3}{3} =$ $\frac{4}{3} =$ $2\frac{1}{3} =$

f) $\frac{1}{6} =$ $\frac{2}{6} =$ $\frac{3}{6} =$ $\frac{4}{6} =$ $\frac{5}{6} =$

g) $\frac{1}{9} =$ $\frac{2}{9} =$ $\frac{4}{9} =$ $\frac{5}{9} =$ $\frac{7}{9} =$

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a) i) $\frac{5}{8} \times 4 =$

ii) $\frac{7}{10} \times 2 =$

iii) $\left(-\frac{3}{28}\right) \times 7 =$

iv) $\frac{6}{35} \times (-5) =$

v) $\left(-\frac{5}{8}\right) \times (-2) =$

b) i) $\frac{2}{3} \times 3 =$

ii) $\frac{3}{8} \times 8 =$

iii) $\frac{5}{13} \times 13 =$

iv) $-\frac{7}{9} \times 9 =$

v) $\frac{3}{25} \times (-25) =$

vi) $\left(-\frac{8}{17}\right) \times (-17) =$

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a) i) $\frac{5}{3}$ of 60 =

ii) $60 \times \frac{5}{3}$ =

b) i) $\frac{11}{18}$ of 6 =

ii) $6 \times \frac{11}{18}$ =

c) i) $\frac{7}{3}$ of 8 =

ii) $8 \times \frac{7}{3}$ =

d) i) $\frac{17}{5}$ of 15 =

ii) $15 \times \frac{17}{5}$ =

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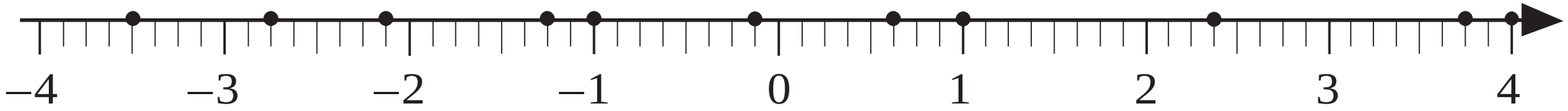
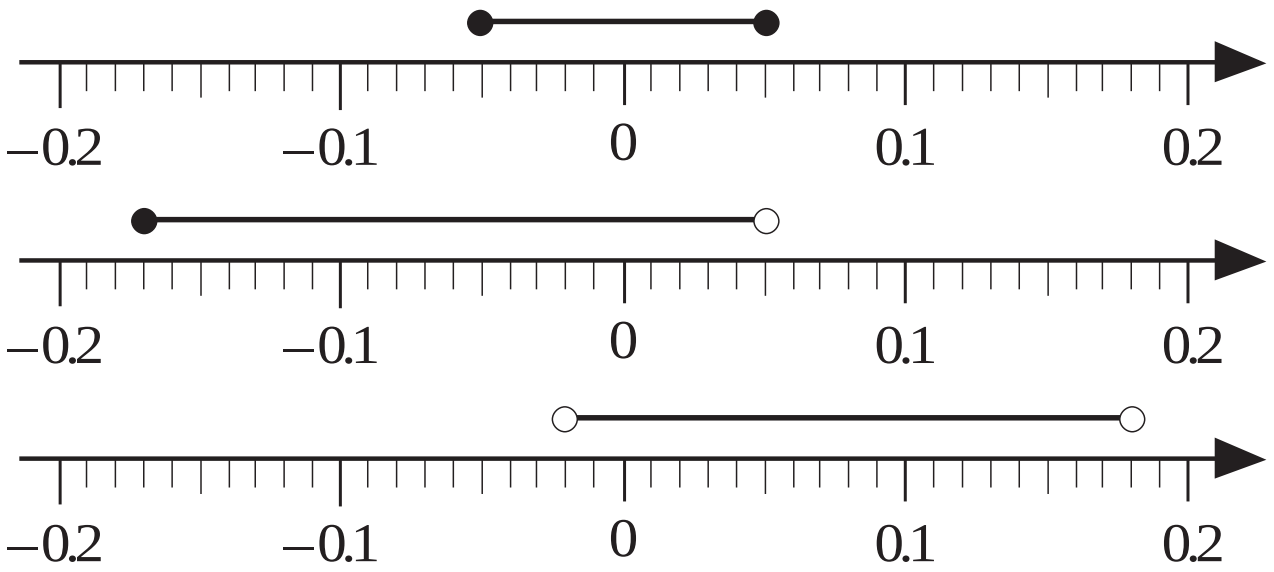


LP 40/1

a) .....

b) .....

c) .....



LP 40/3

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a) i) $\frac{4}{9} + \frac{2}{9} =$

ii) $\frac{11}{12} - \frac{5}{12} =$

iii) $\frac{13}{20} + \frac{3}{10} - \frac{21}{20} =$

iv) $8\frac{2}{5} - 7\frac{3}{10} + 2\frac{1}{2} =$

b) i) $\frac{3}{4} + \frac{9}{16} =$

ii) $\frac{3}{100} + \frac{1}{4} - \frac{1}{5} =$

iii) $11\frac{5}{13} - \frac{29}{26} =$

iv) $8 - 3\frac{5}{7} =$

c) i) $139 - (20.7 - 5.8) =$

ii) $45.33 - 8.03 + 9.1 =$

d) i) $-4.4 - (+5.5) + (-3.3) - (-2.2) =$

ii) $-100 - 54.35 - 17.98 + 20.6 =$

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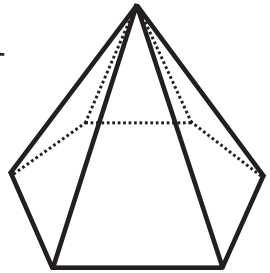
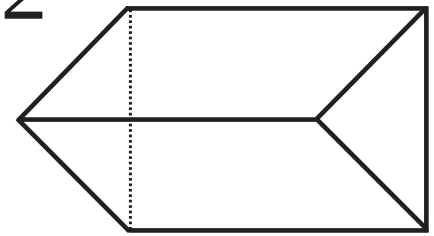
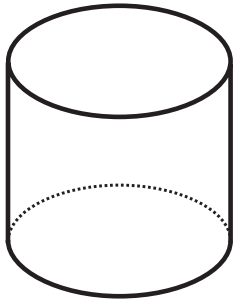
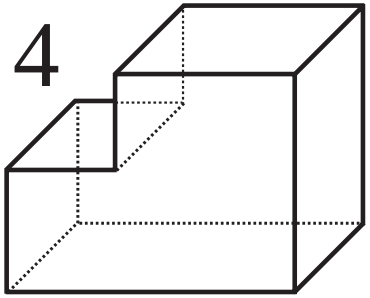
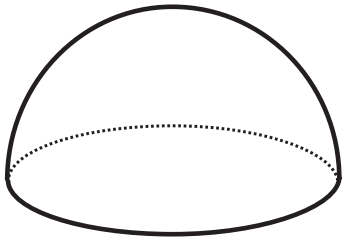
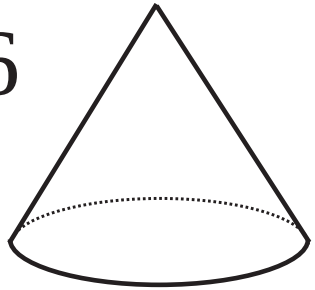
1 

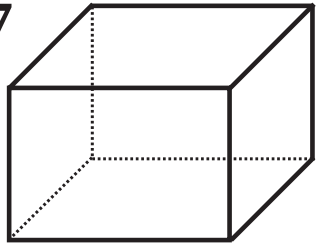
2 

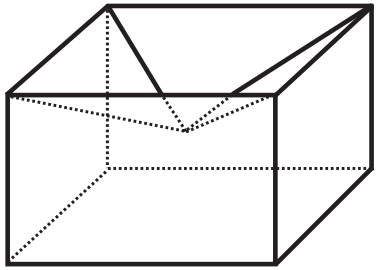
3 

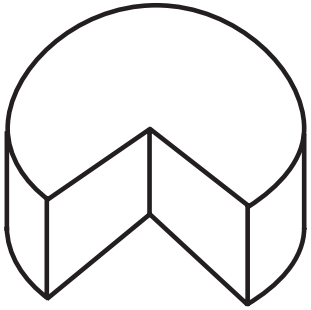
4 

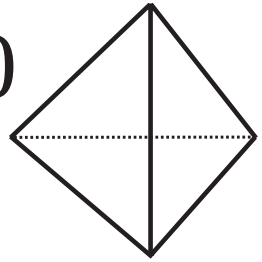
5 

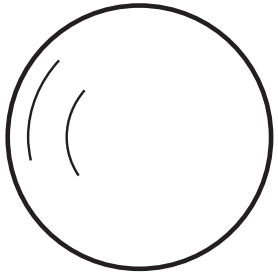
6 

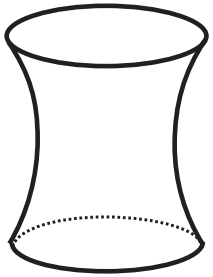
7 

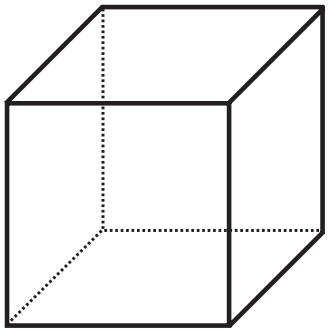
8 

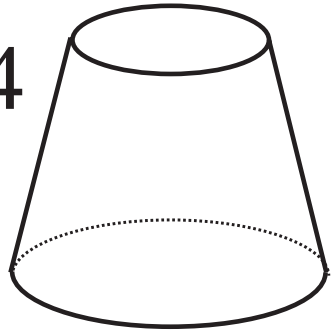
9 

10 

11 

12 

13 

14 

LP 41/3a

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a) It has only plane faces. .....

b) It has at least one plane face. .....

c) It has at least 2 plane faces. .....

d) It has perpendicular faces. .....

e) It has at least one triangular face. .....

f) It has only rectangular faces. .....

g) It has at least 2 parallel edges. .....

h) It has perpendicular edges. .....

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Solid	1							
Number of faces								
Number of edges								
Number of vertices								

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a) When we divide up a surface, the surface pieces are bounded by ☐.

b) A line can be curved or ☐.

c) When we divide up a line, the segments start and end with ☐.

d) A point on a straight line divides the line into ☐ **half lines** or **rays**.

e) The part of a straight line between two different points is called a ☐.

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f) A straight line in a plane divides that plane into ☐ half planes.

g) Two different **parallel** lines divide their plane into ☐ parts.

h) Two **intersecting** lines divide their plane into ☐ parts.

i) A **plane** divides space into ☐ half spaces.

j) Two planes can be ☐ or intersecting.

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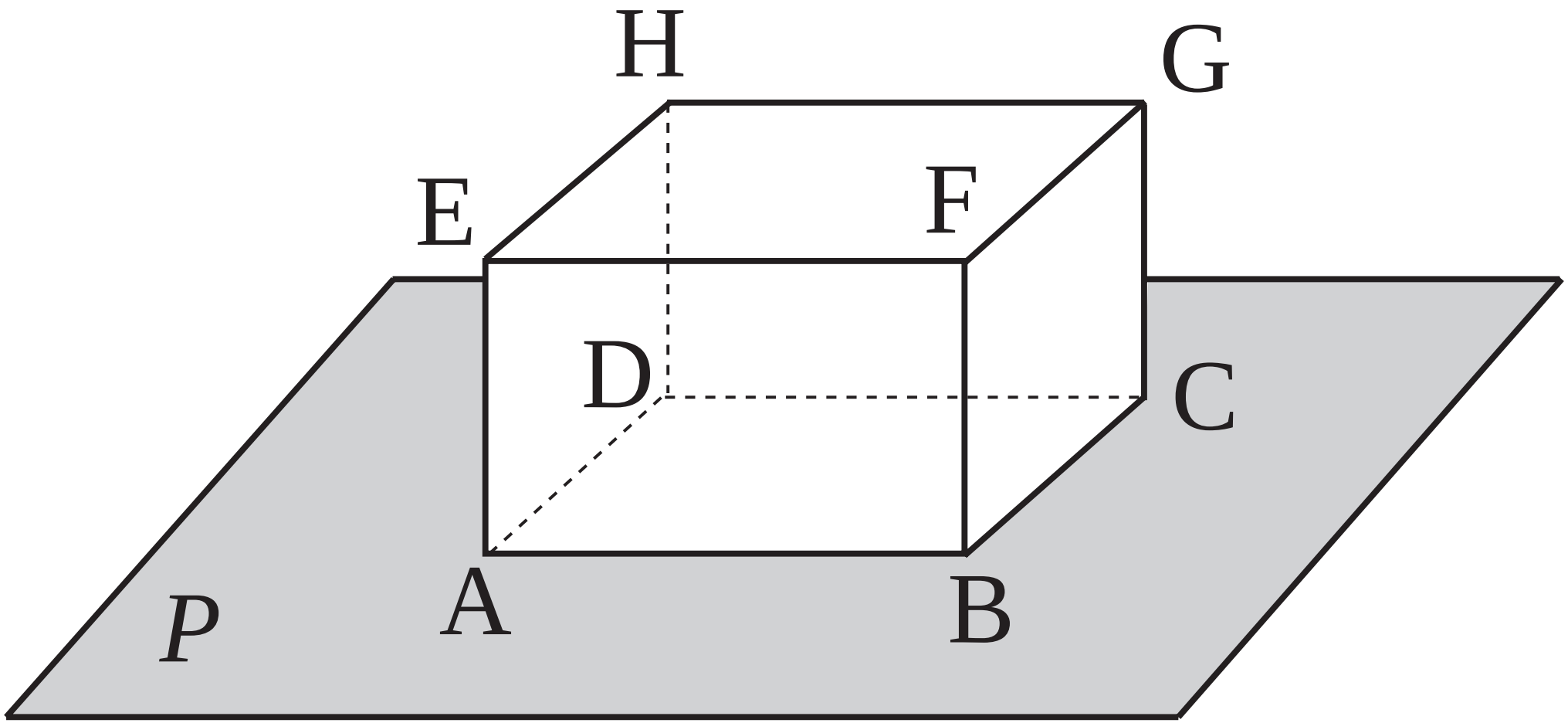

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a) The line segment joining the **centre** of a circle (C) and a point (D) on its **circumference** is called the ☐.

b) A section between two **points** on the circumference is called an ☐.

c) A **chord** which lies on the centre of the circle is called the ☐.

d) Two points on the circumference divide it into ☐ **arcs**.

e) Two **radii** of a circle divide the circle into ☐ **sectors**.

f) A chord divides the circle into ☐ segments.

g) Line *f* is an ☐ and line *t* is a ☐ of the circle.

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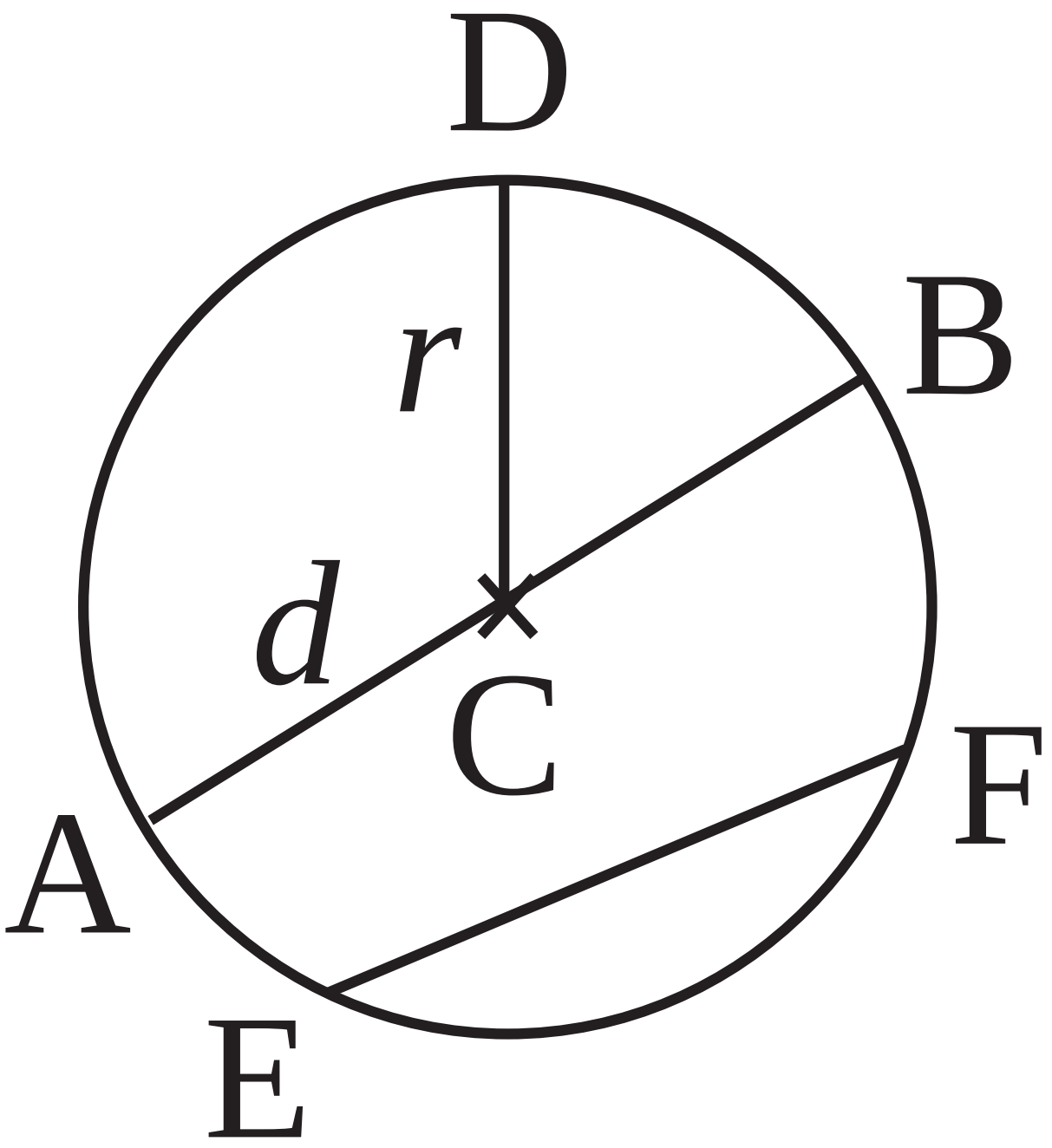

Questions 3a to 3c

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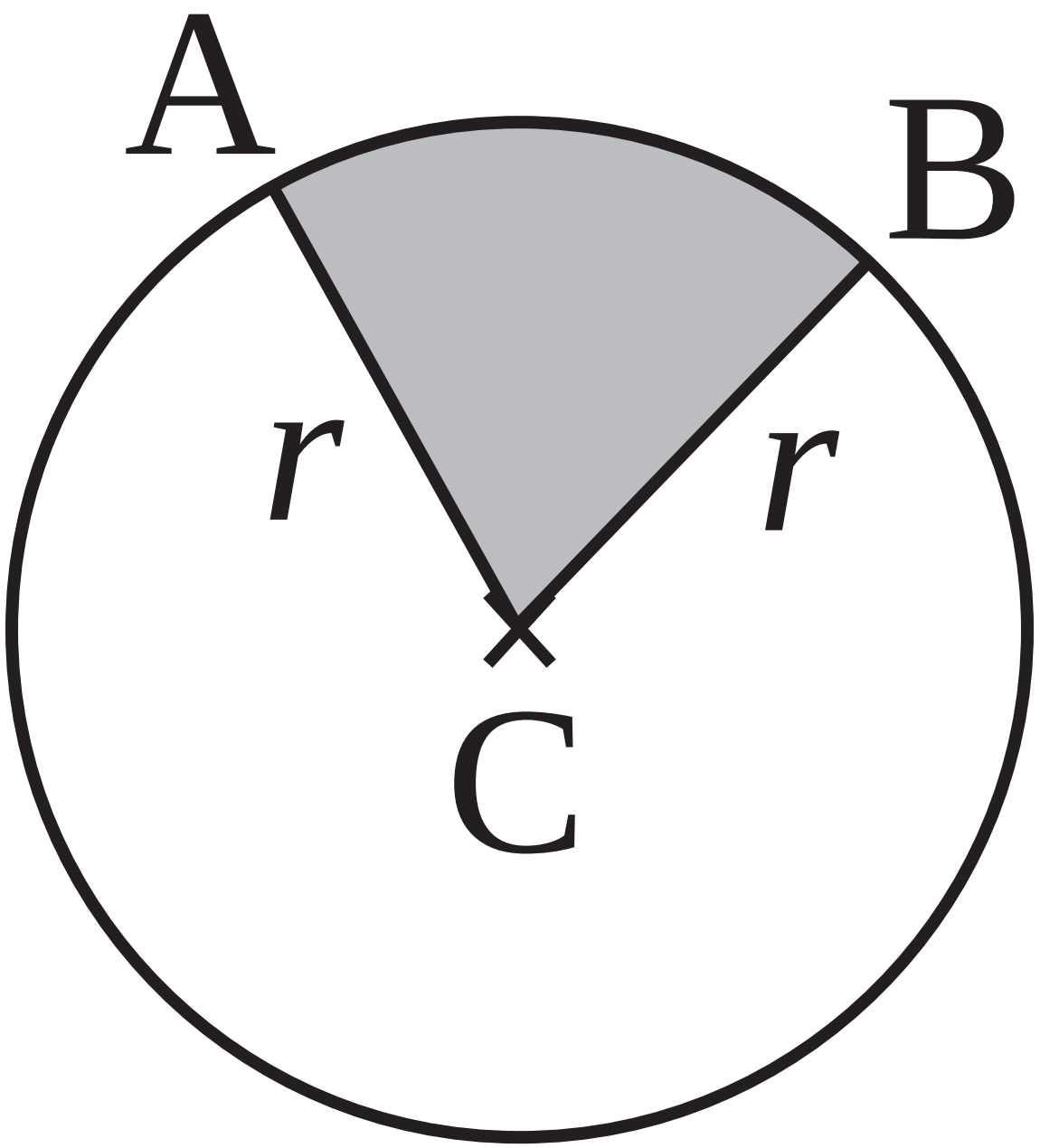

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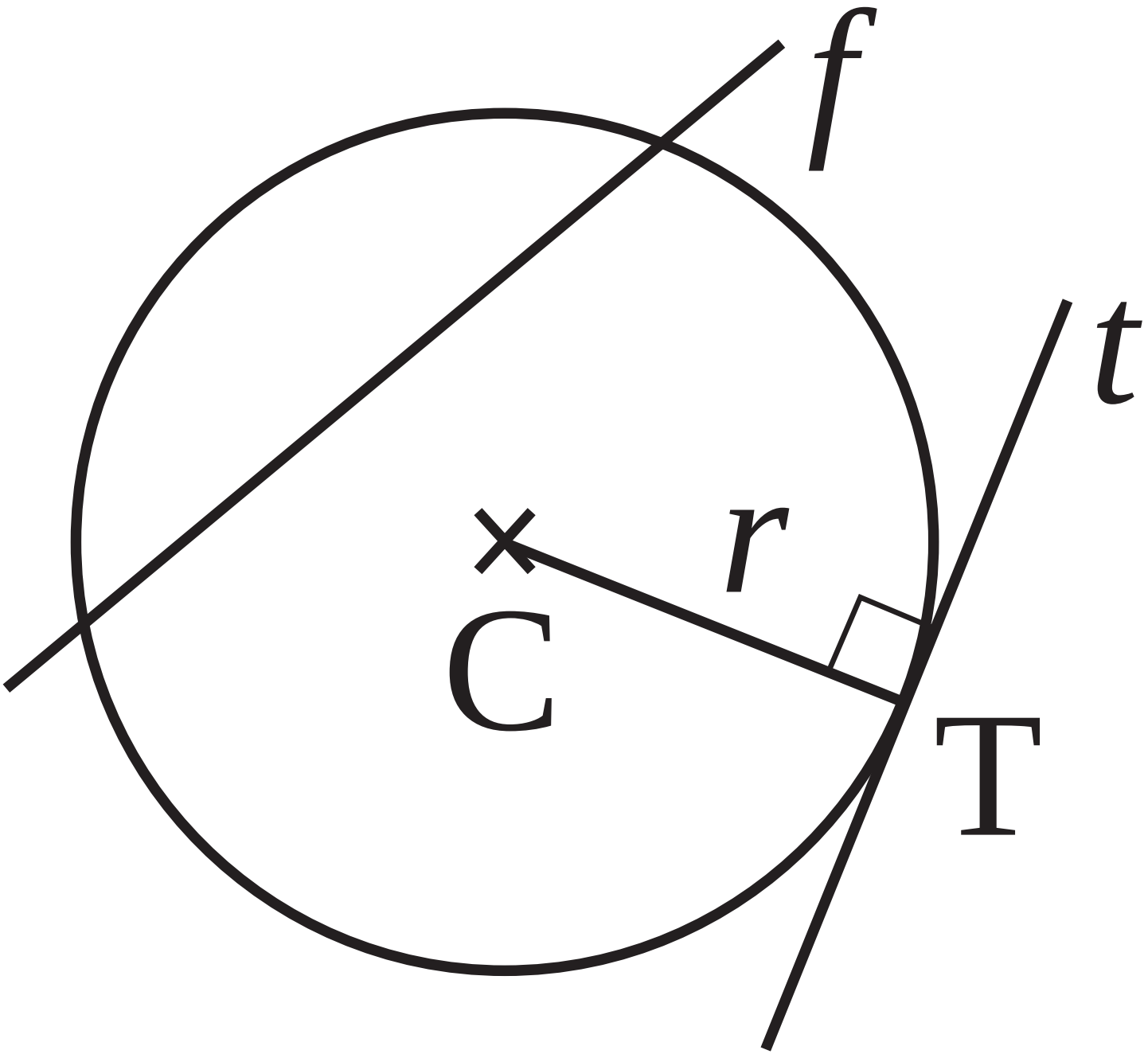

Question 3g

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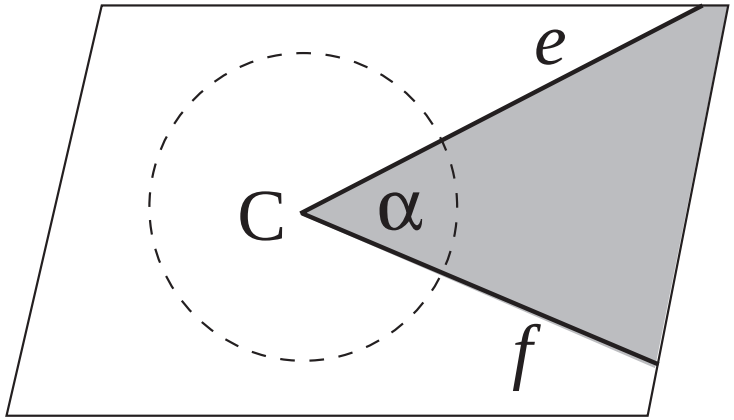
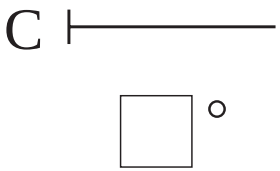
a) The two half lines (*e* and *f*) form two [ ].

b) C is the [ ] and *e* and *f* are the [ ] of the angle α.



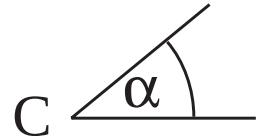
c)

null angle



[ ]°

[ ] angle



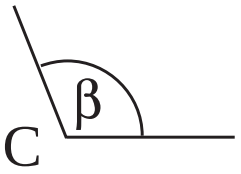
$0° < \alpha < 90°$

(alpha)

[ ] angle

90°

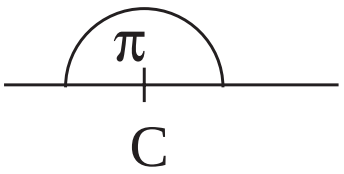
[ ] angle



$90° < \beta < 180°$

(beta)

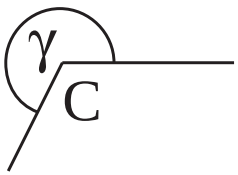
[ ] angle



$\pi = 180°$

(pi)

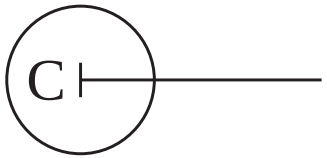
reflex angle



$180° < \gamma <$ [ ]°

(gamma)

whole angle



[ ]°

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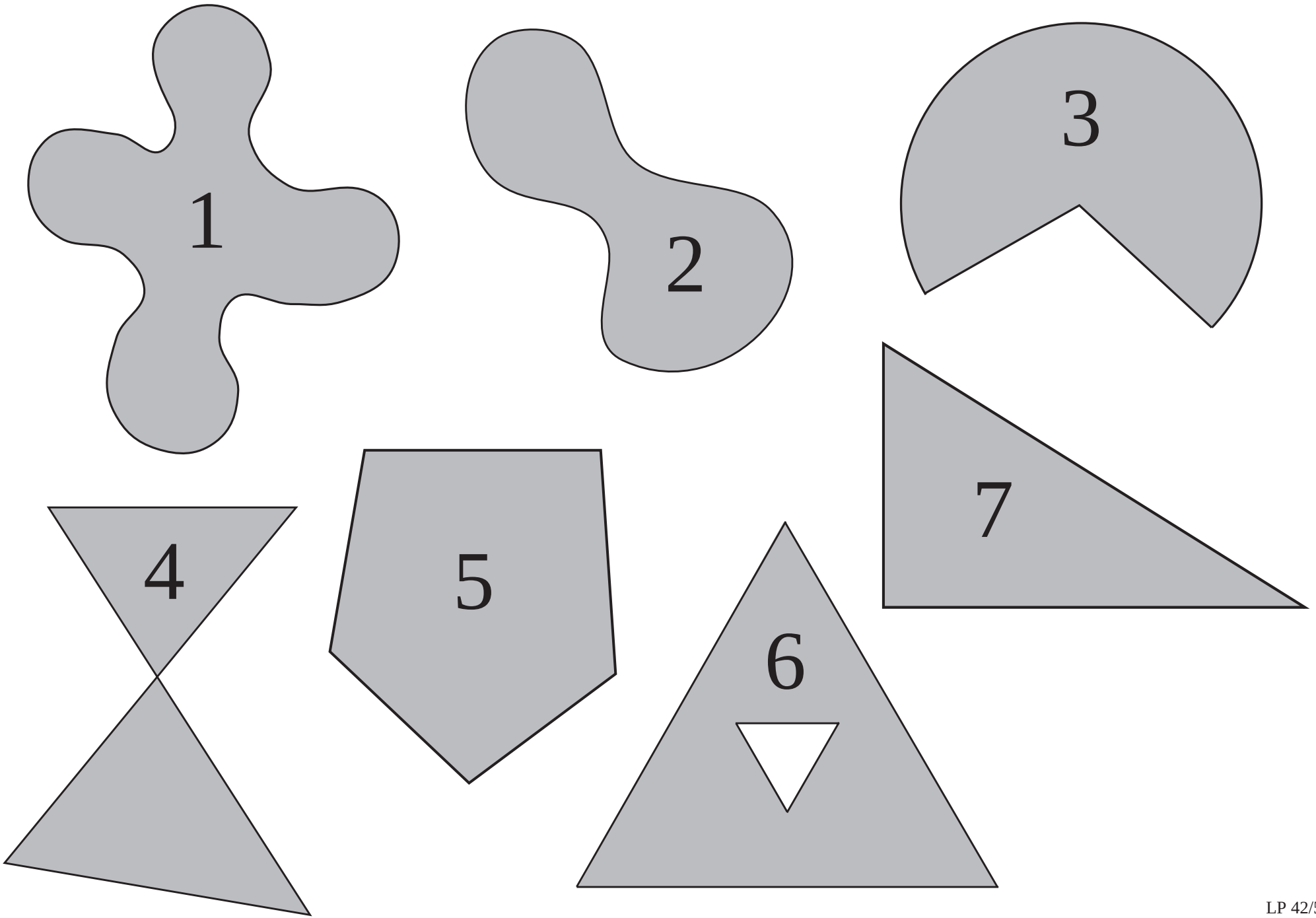

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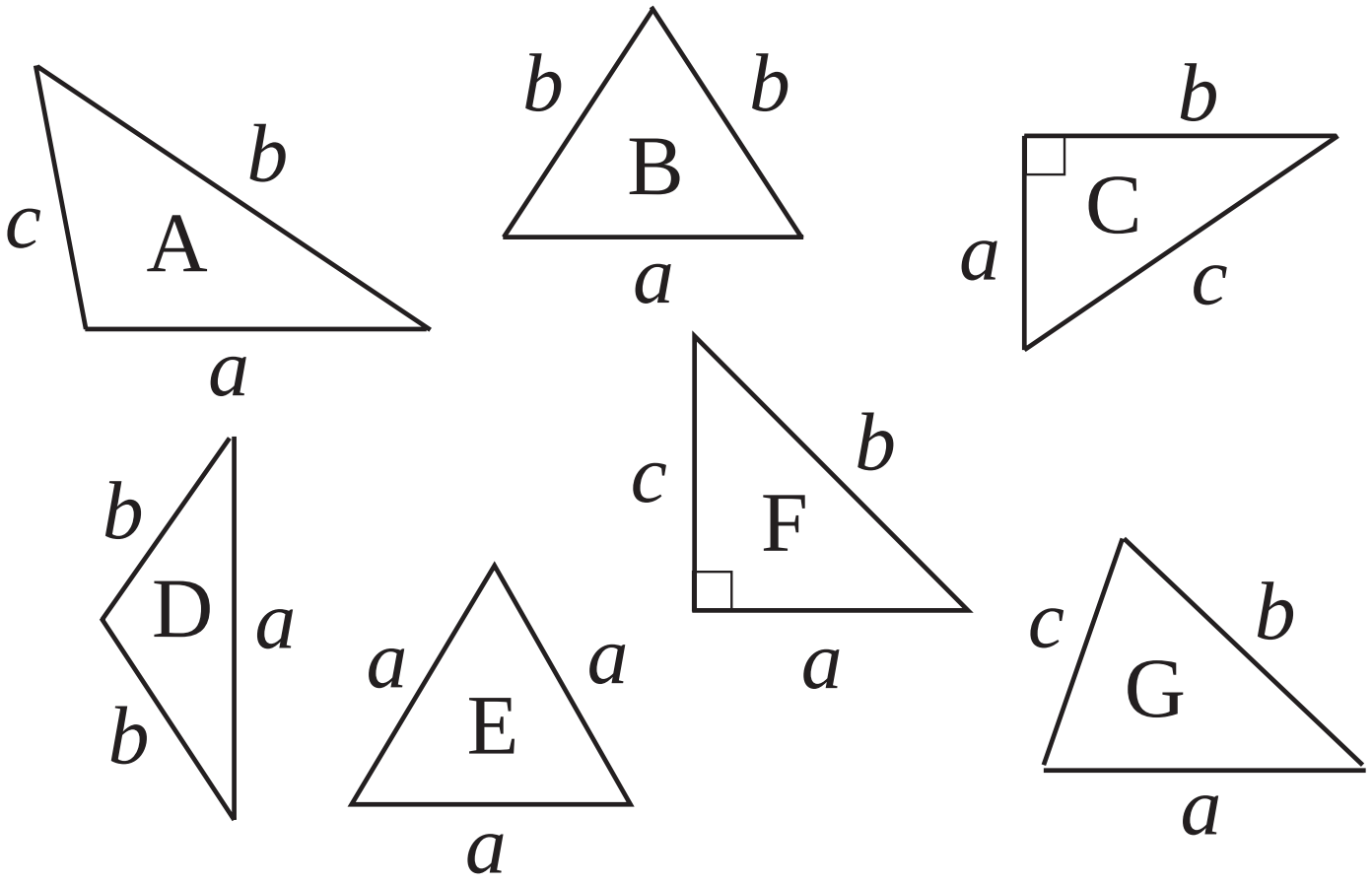

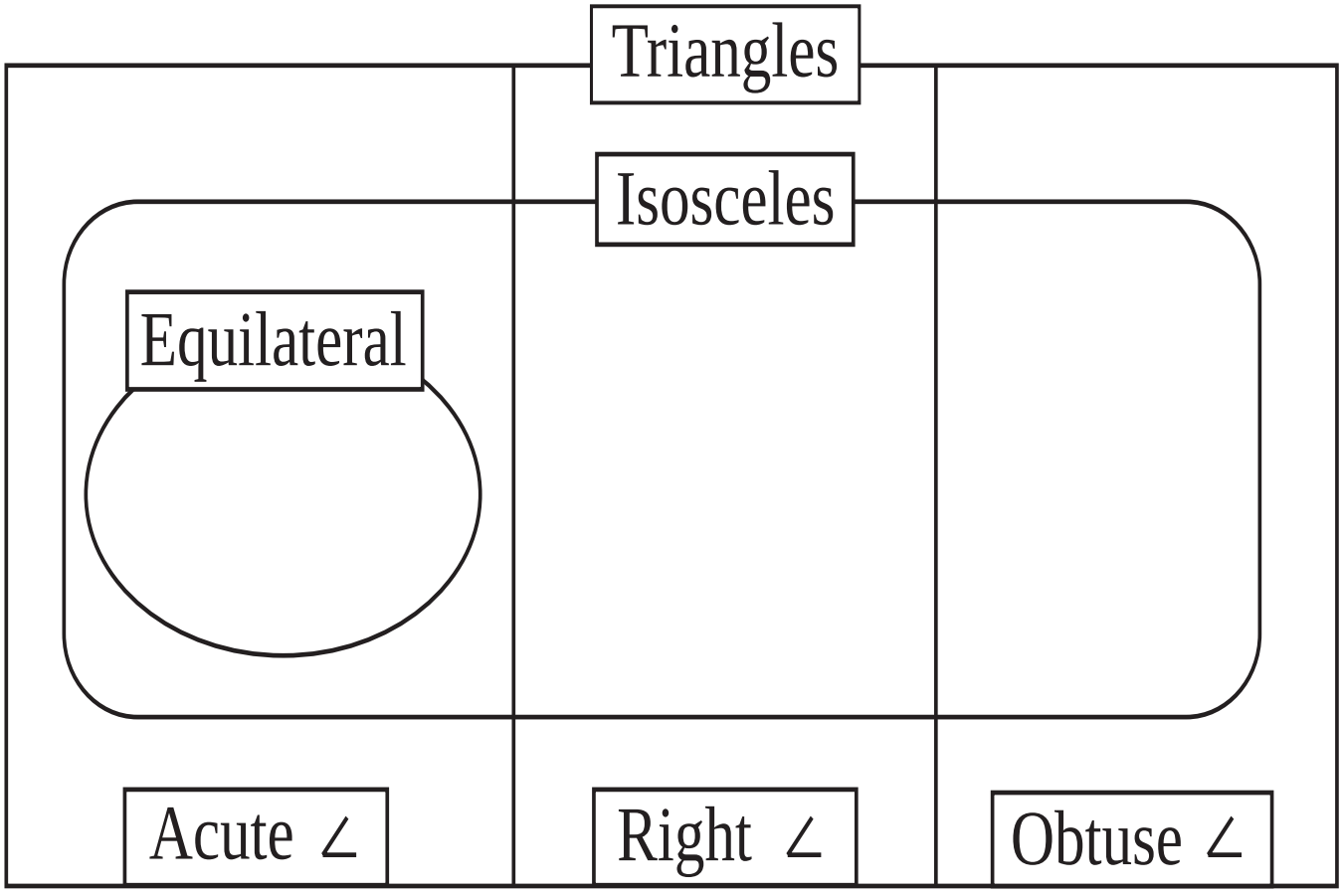

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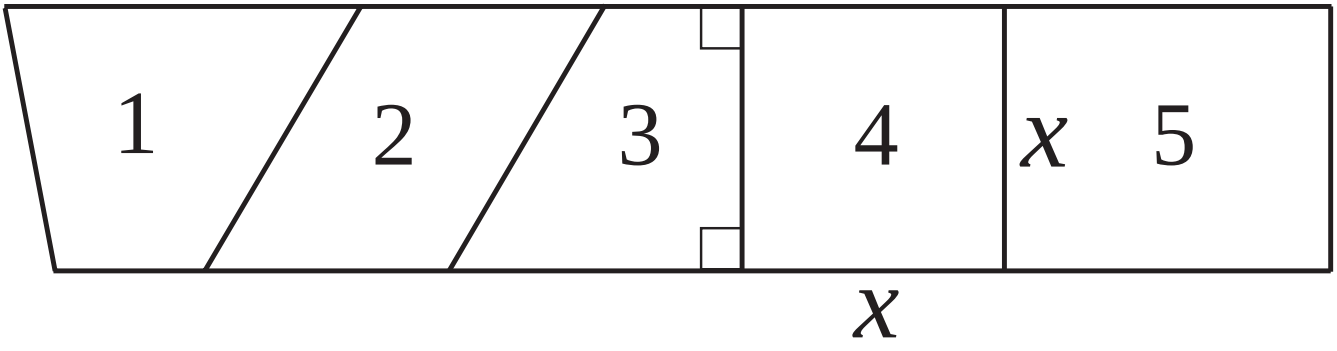

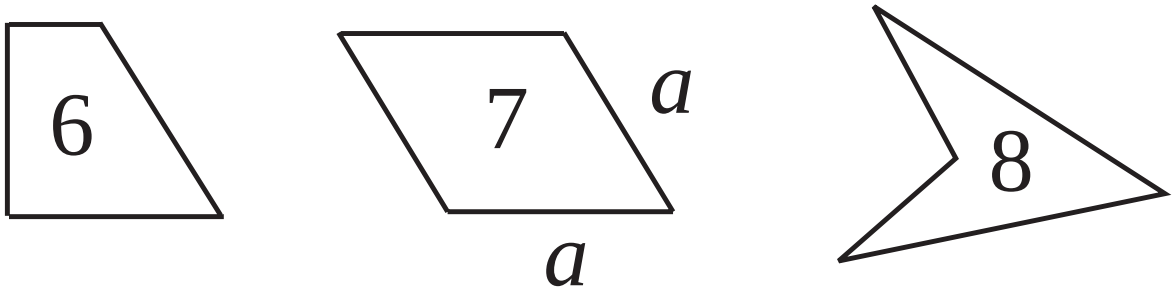

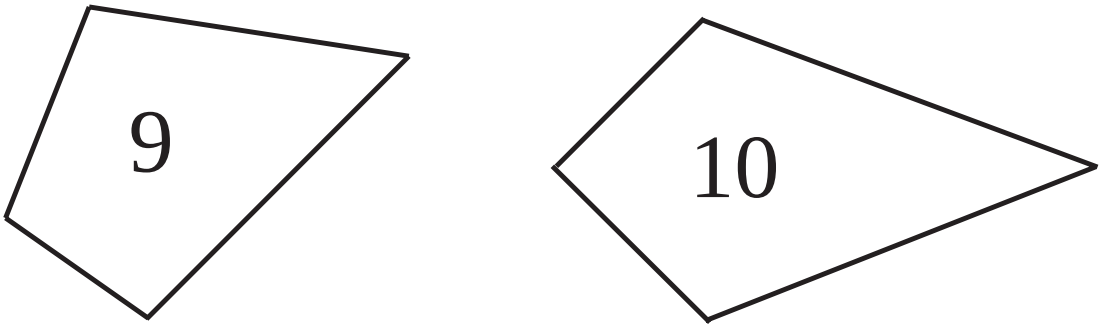

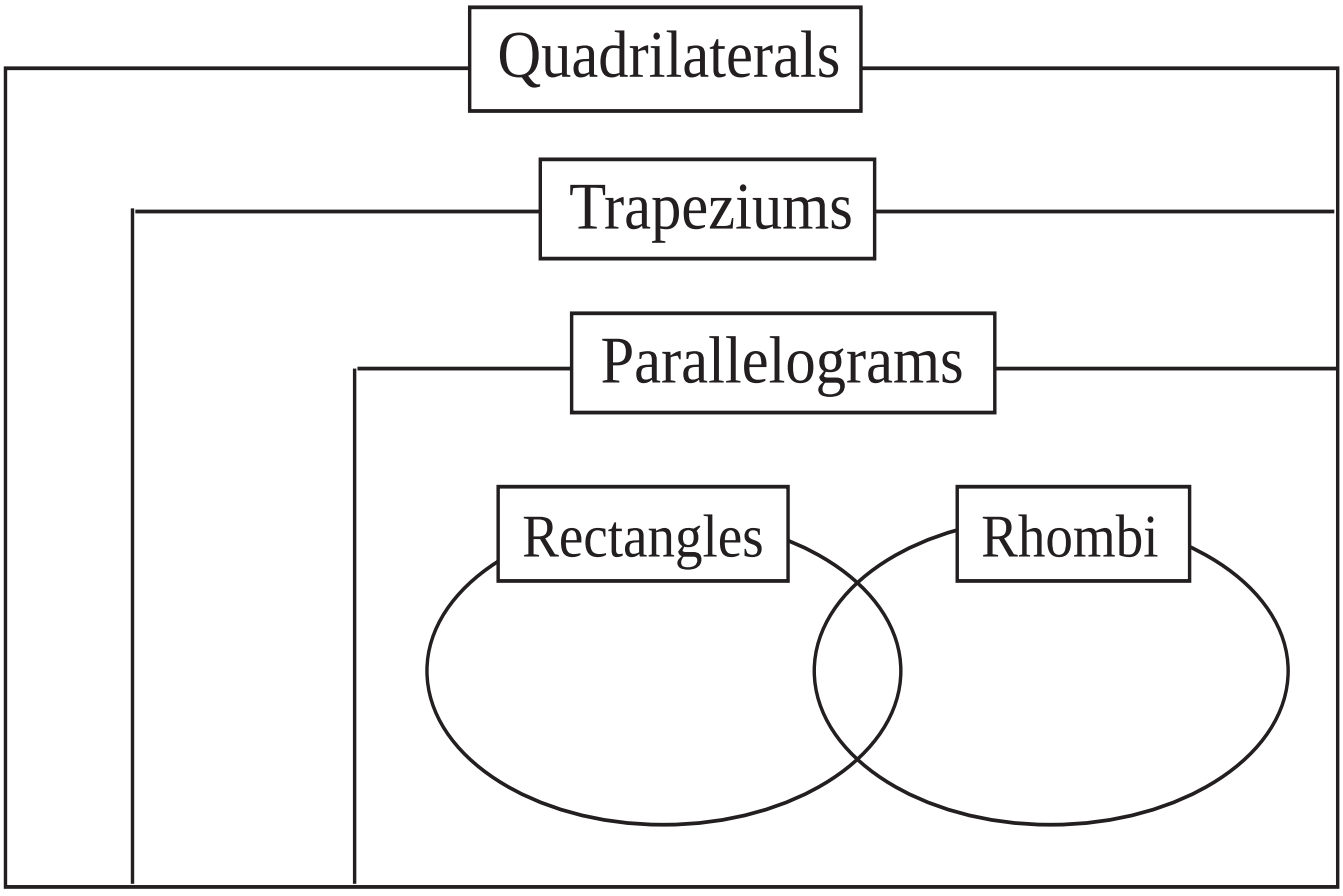

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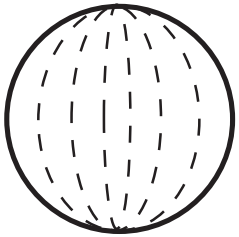
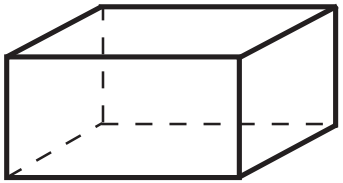
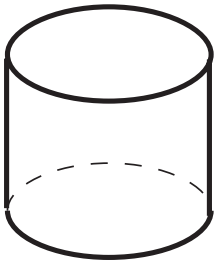
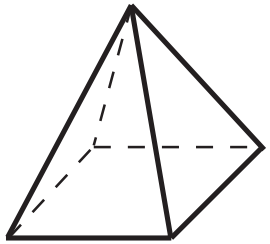
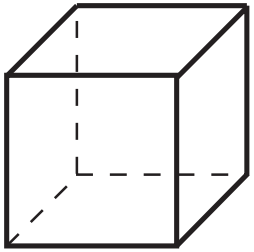
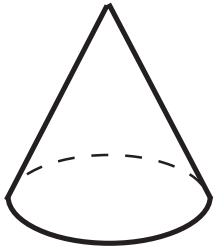
a) 

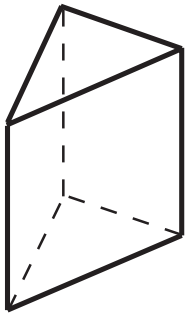
b) 

c) 

d) 

e) 

f) 

g) 

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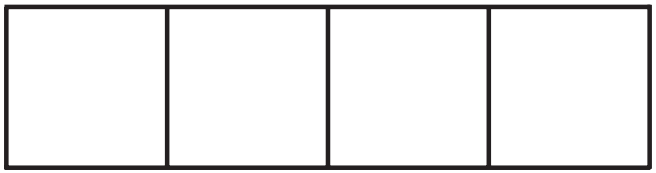

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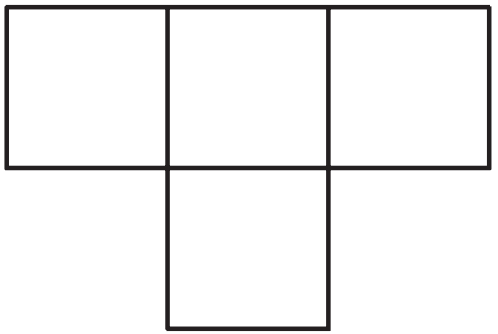

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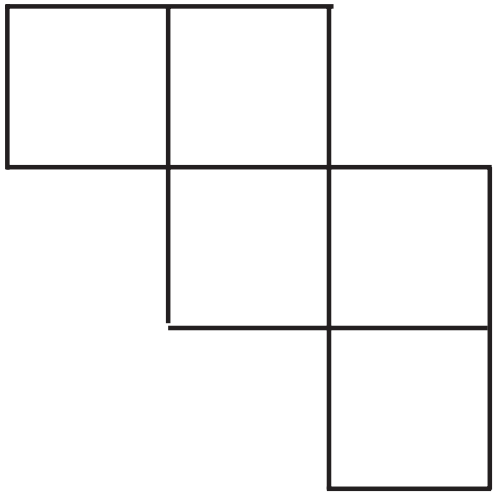

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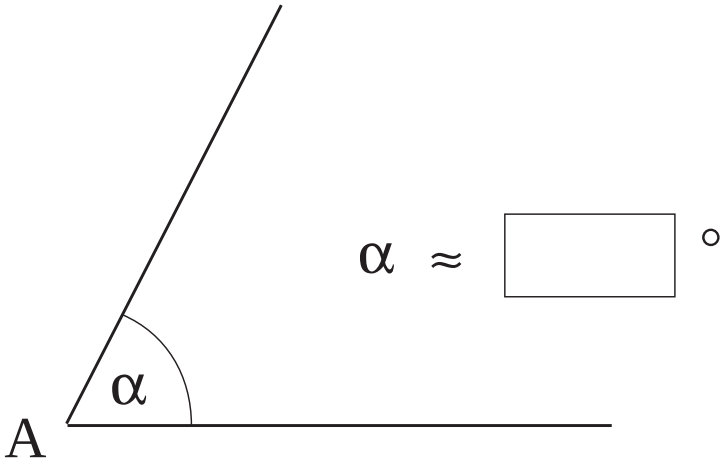
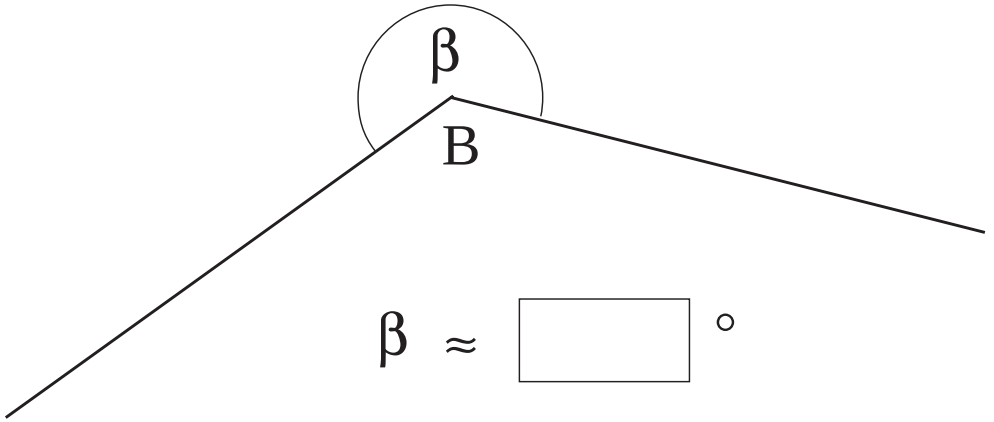


$\alpha \approx$ ☐ °



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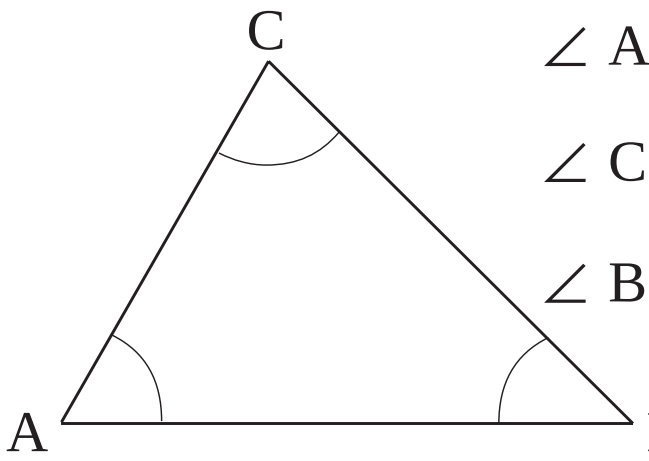
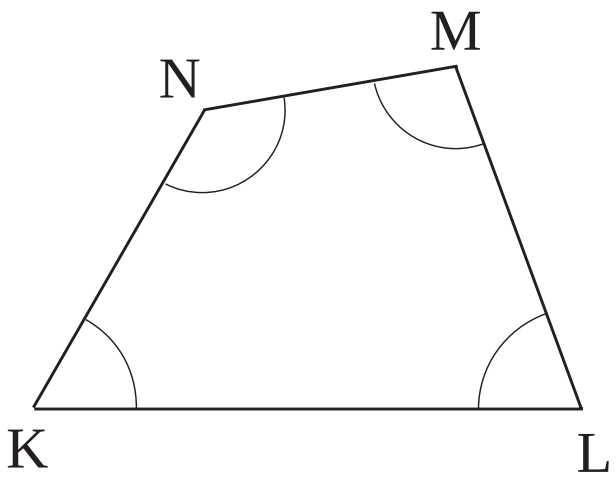


$\angle A \approx$ ☐ °

$\angle C \approx$ ☐ °

$\angle B \approx$ ☐ °



$\angle K \approx$ ☐ °

$\angle L \approx$ ☐ °

$\angle M \approx$ ☐ °

$\angle N \approx$ ☐ °

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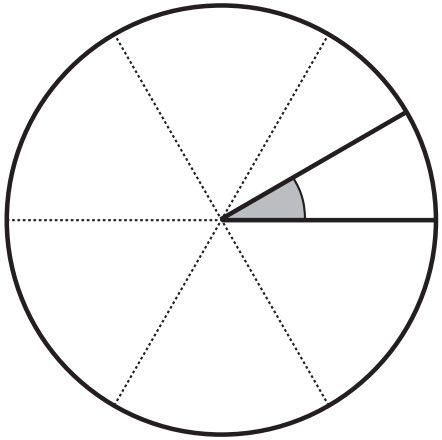

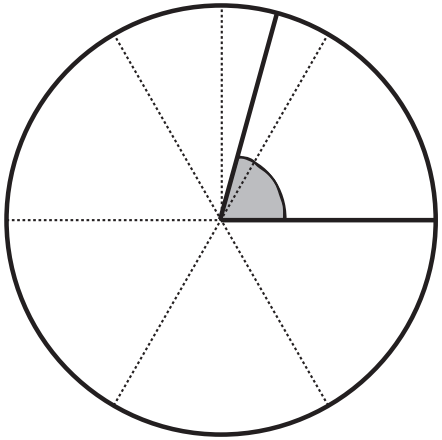

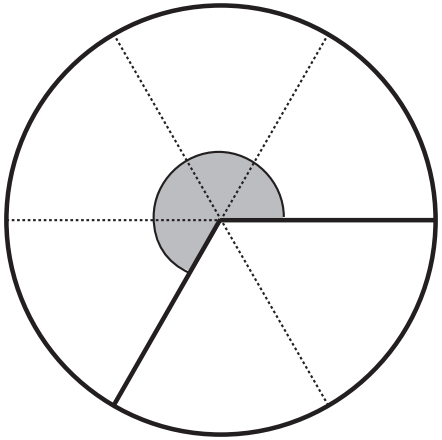

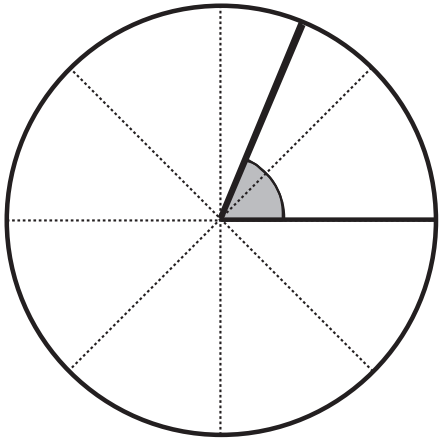

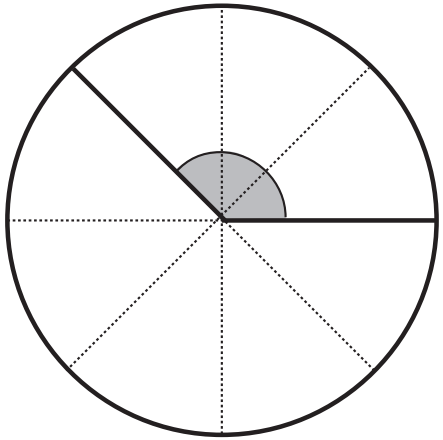

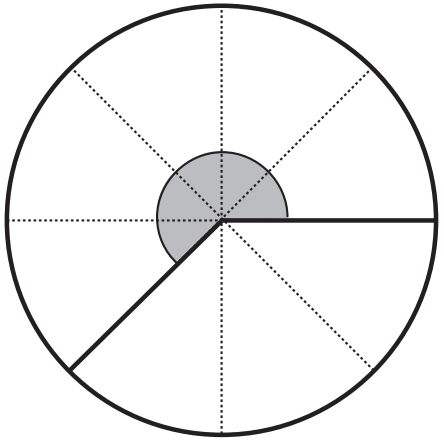

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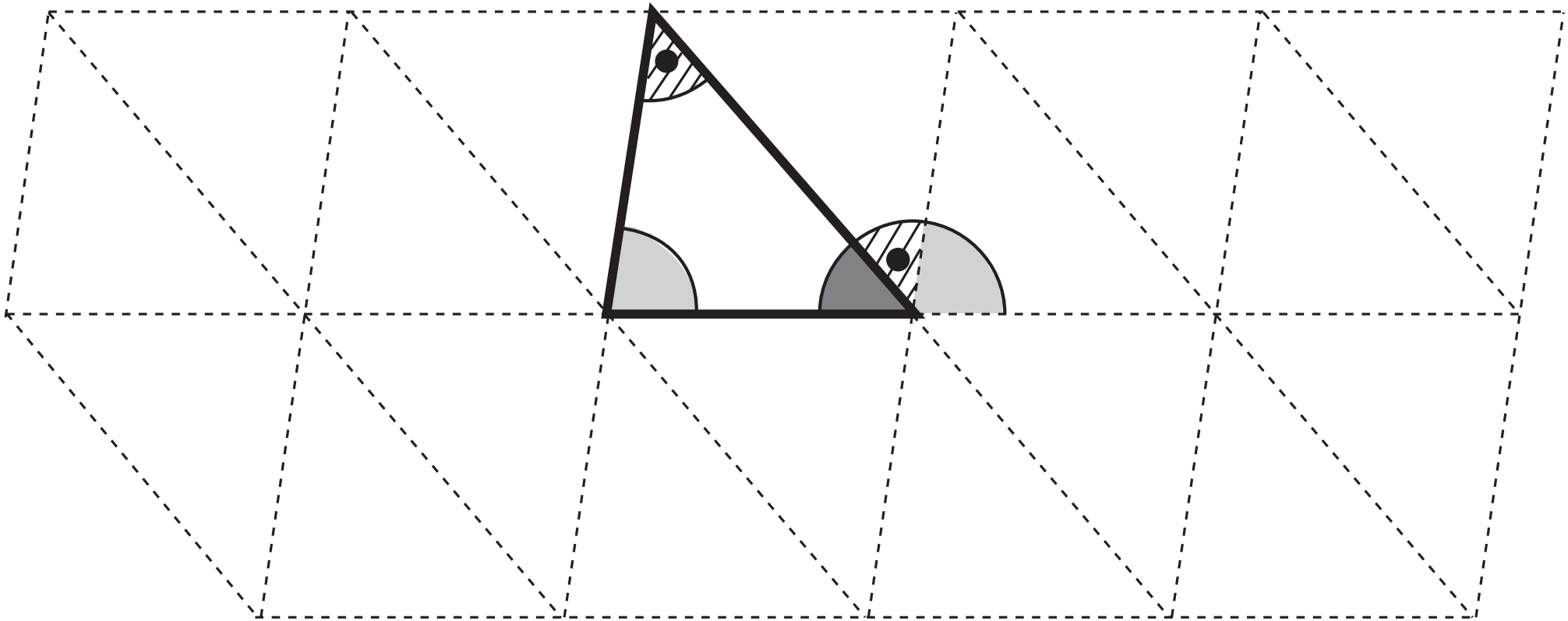

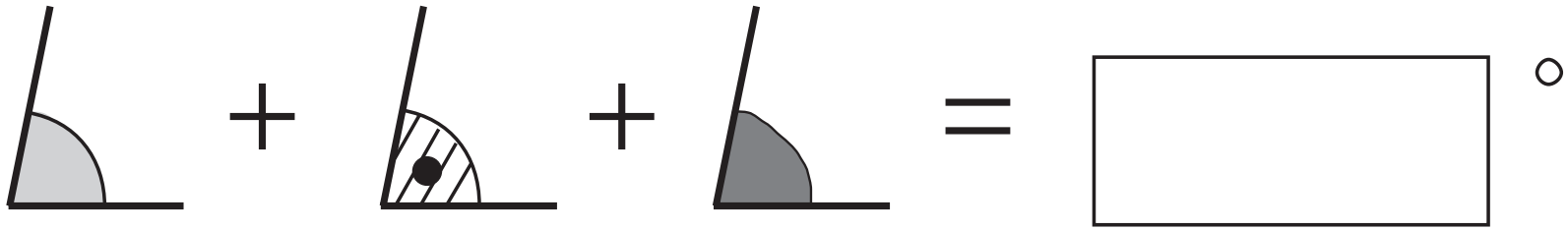

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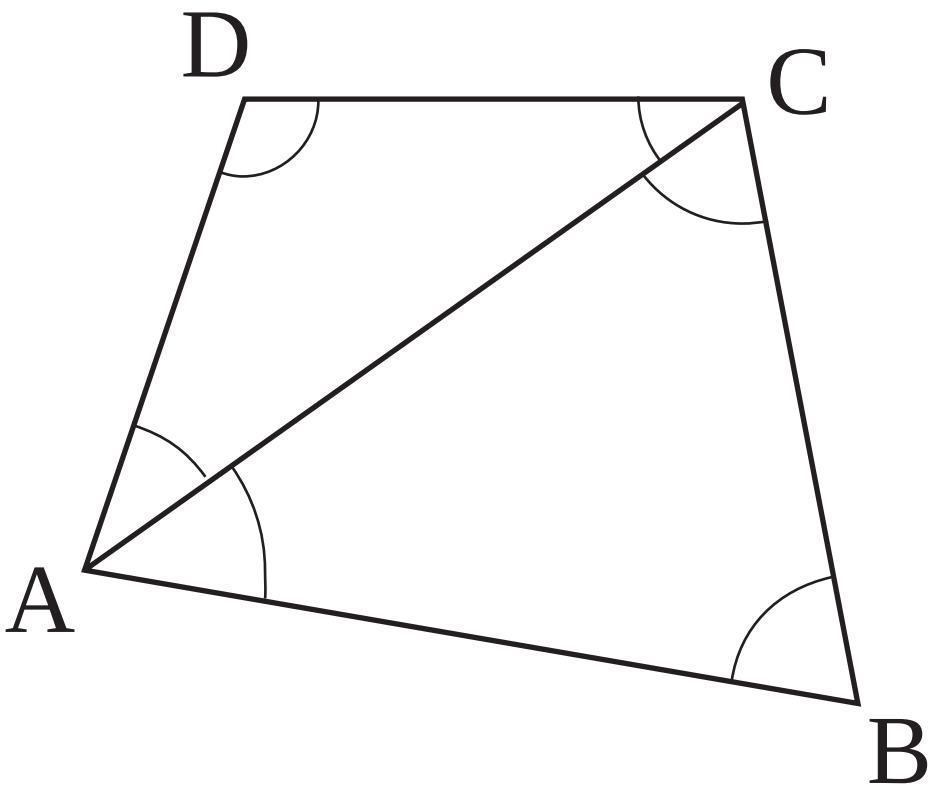

i) The sum of the angles in ΔABC is ☐ °

i) The sum of the angles in ΔACD is ☐ °

iii) The sum of the angles in ABCD is ☐ °

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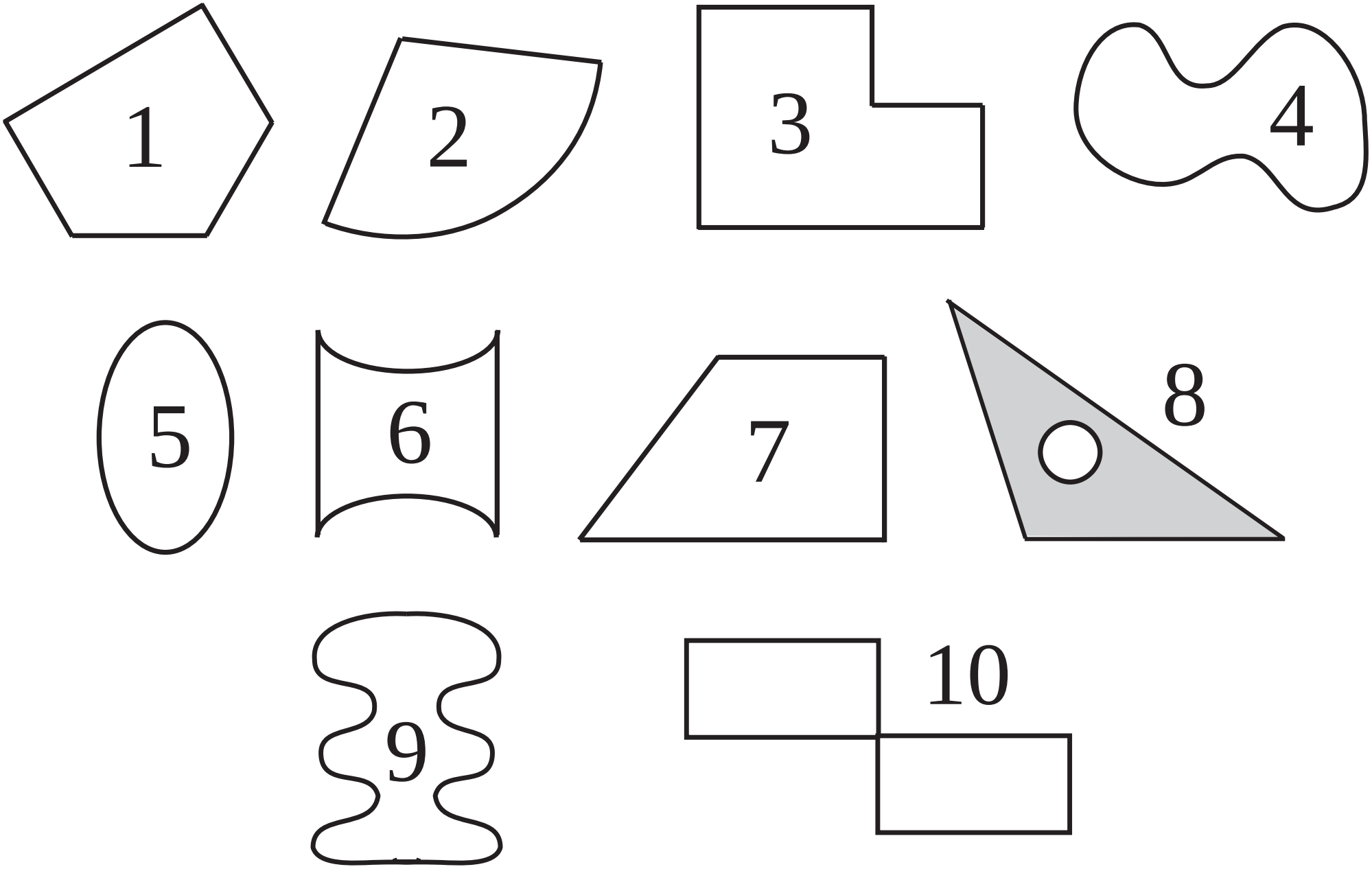

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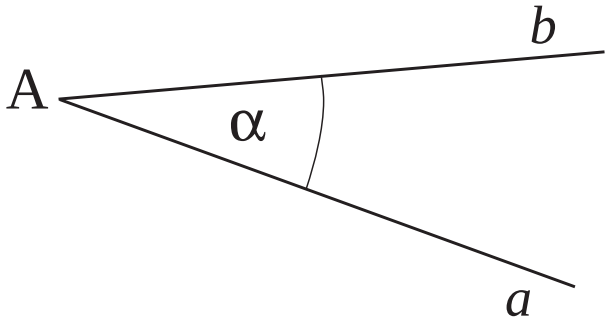
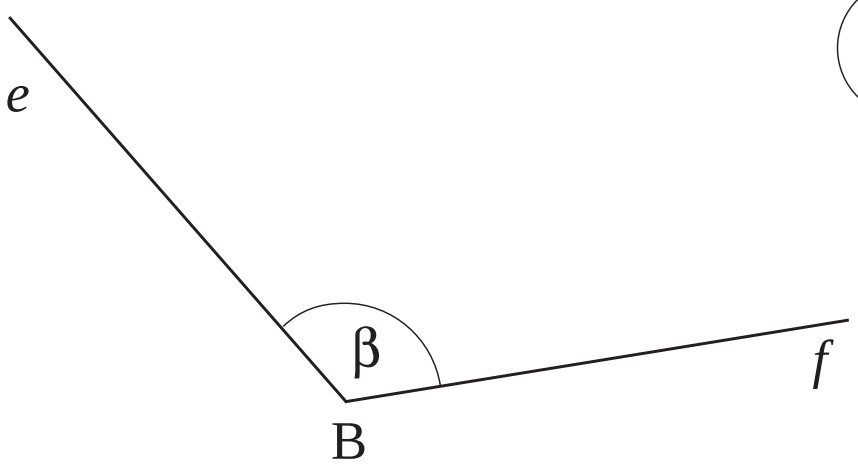
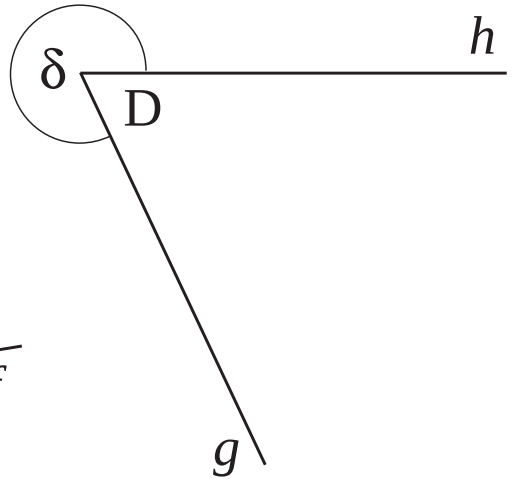


α = ☐°



β = ☐°



δ = ☐°

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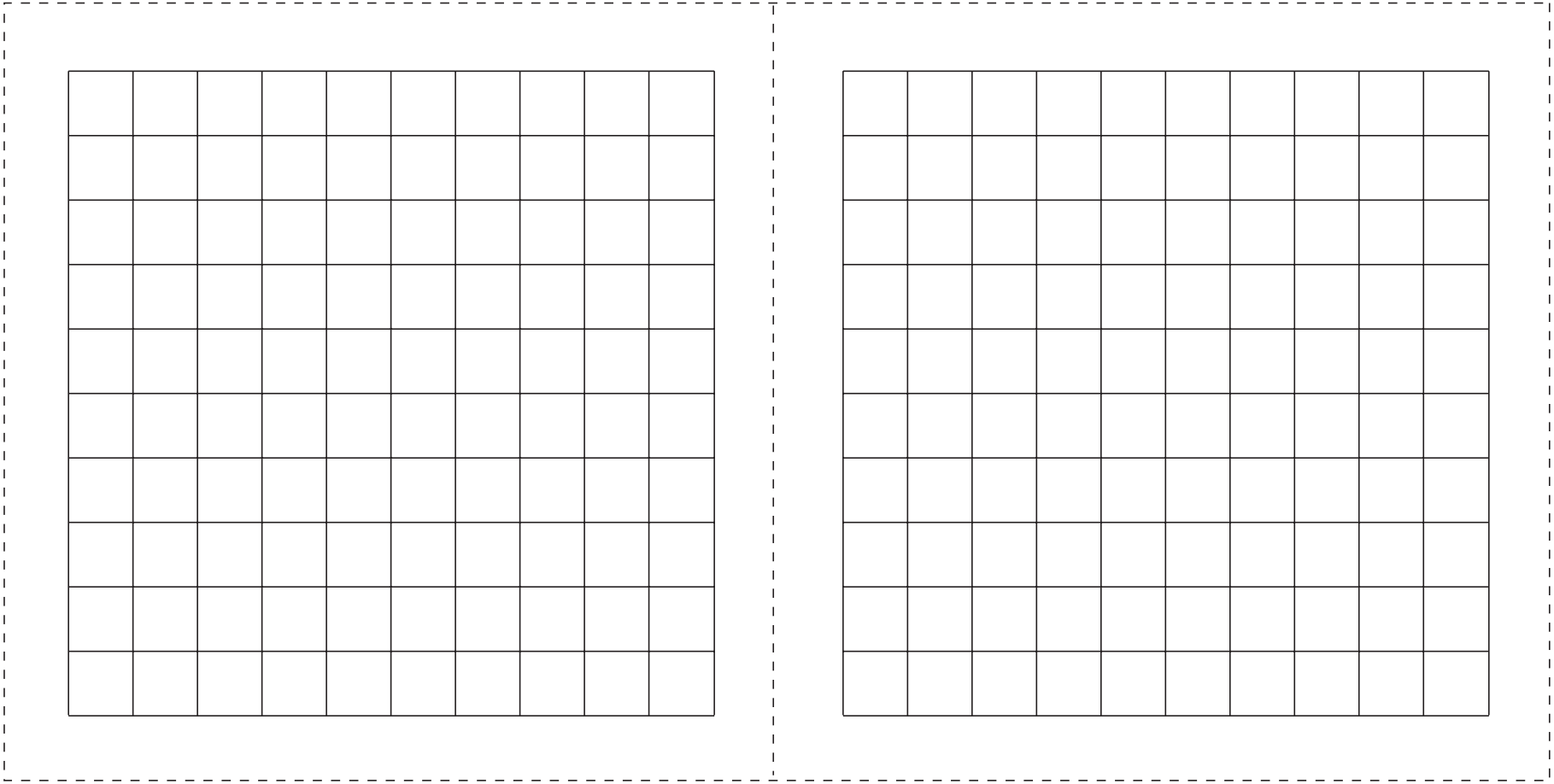

Copy on strong transparent film (OHT) and cut along dotted lines (1 square grid per pupil)

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a) **Length**

1 mm $<$ 1 cm $<$ ☐ $<$ 1 km

$\times 10$ $\times 100$ $\times$ ☐

b) ☐

1 mm^2 $<$ ☐ $<$ 1 m^2 $<$ 1 hectare $<$ km^2

$\times 100$ $\times 10\,000$ $\times 10\,000$ $\times$ ☐

c) **Mass**

1 mg $<$ 1 g $<$ 1 kg $<$ ☐

$\times 1000$ $\times$ ☐ $\times 1000$

d) ☐

1 ml $<$ ☐ $<$ 1 litre

$\times 10$ $\times$ ☐

e) **Volume**

1 mm^3 $<$ ☐ $<$ 1 m^3 $<$ ☐

$\times 1000$ $\times$ 1 million $\times$ 1 billion

f) ☐

1 " $<$ 1 ' $<$ 1°

$\times 60$ $\times 60$

g) **Time**

1 sec $<$ 1 min $<$ 1 hour $<$ ☐ $<$ 1 week $<$ ☐

$\times$ ☐ $\times$ ☐ $\times 24$ $\times 7$ $\times$ ☐

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a) 34.6 m = _____ cm = _____ mm = _____ km

b) 0.6 tonnes = _____ kg = _____ g

c) 4567 g = _____ kg = _____ tonnes

d) 6282 ml = _____ cl = _____ litres

e) 3.2 hours = _____ min = _____ sec

f) 1.5 m^2 = _____ cm^2 = _____ mm^2

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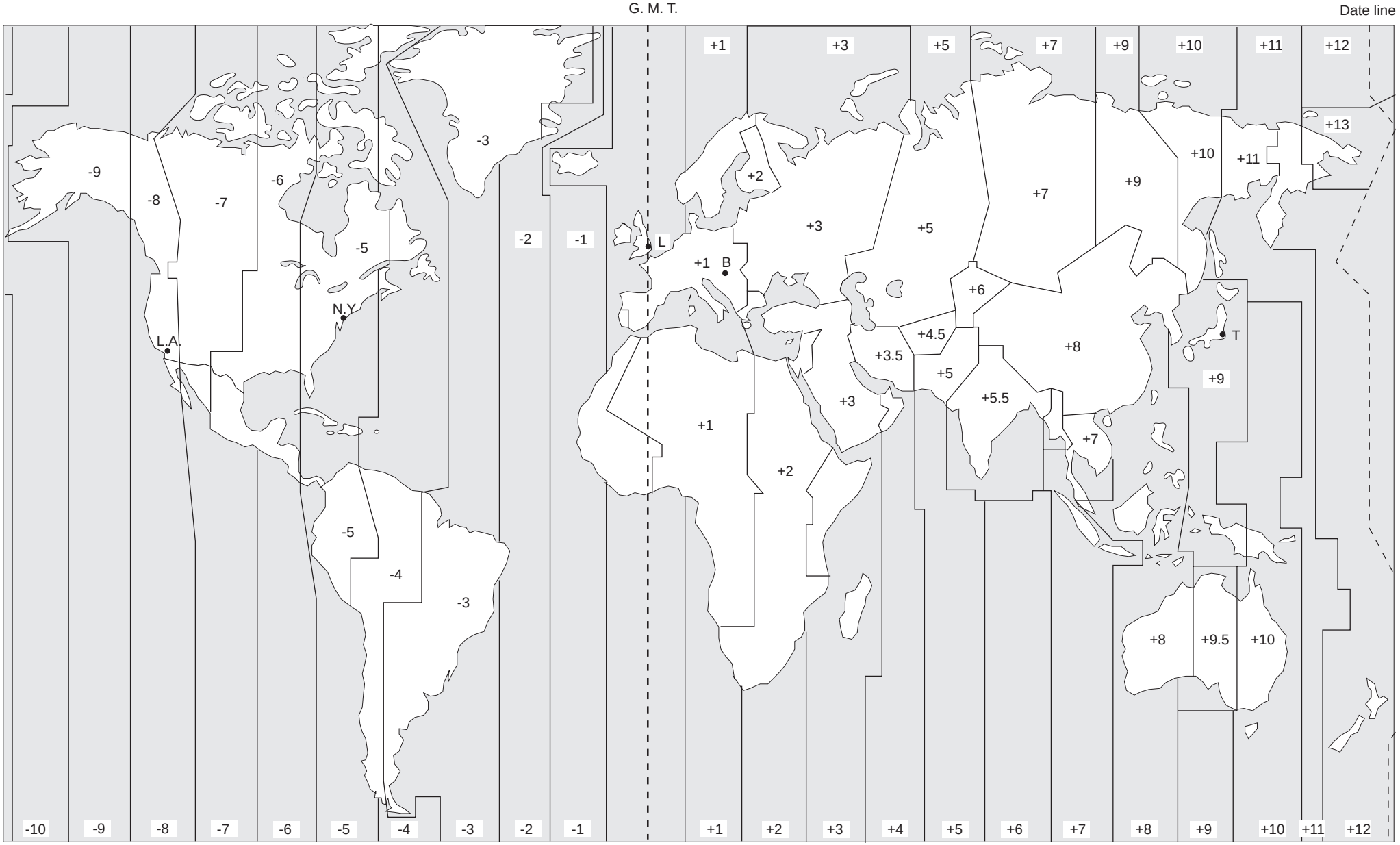
Time Zones around the World



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1 mm	≈	0.03937 inch	1 inch	≈	
1 cm	≈	0.3937 inch	1 inch	≈	
1 m	≈	39.37 inches	1 yard	≈	
	=	1.094 yards			
1 m	≈	3.281 feet	1 foot	≈	
1 km	≈	1093.61 yards	1 mile	≈	
	=	0.6214 mile			

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$1\ mm^2$	≈	0.00155 squ. inch	1 square inch	≈	
$1\ cm^2$	≈	0.155 squ. inch	1 square inch	≈	
$1\ m^2$	≈	1.196 squ. yards	1 square yard	≈	
$1\ km^2$	≈	0.386 squ. miles	1 square mile	≈	
$1\ km^2$	≈	247.1 acres	1 acre	≈	

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1 g	≈	0.0353 ounce (oz)	1 oz	≈	
1 kg	≈	35.27 ounces (oz)	1 oz	≈	
1 kg	≈	2.205 pounds (lb)	1 lb	≈	
1 t	≈	2204.62 pounds	1 lb	≈	
1 t	≈	19.688 hundredweights (cwt)	1 cwt	≈	

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1 ml	≈	0.00176 pint	1 pint	≈	
1 cl	≈	0.0176 pint	1 pint	≈	
1 litre	≈	1.76 pints	1 pint	≈	
1 litre	≈	0.22 gallons	1 gallon	≈	

1 cm^3	≈	0.06102 cubic inches	1 cubic inch	≈	
1 m^3	≈	35.315 cubic feet	1 cubic foot	≈	
1 m^3	≈	1.308 cubic yards	1 cubic yard	≈	

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$-17.8^\circ C$	$\approx$	$0^\circ F$	$10^\circ C$	$\approx$	$50^\circ F$	$40^\circ C$	$\approx$	$104^\circ F$
$-10^\circ C$	$\approx$	$14^\circ F$	$20^\circ C$	$\approx$	$68^\circ F$	$100^\circ C$	$\approx$	$212^\circ F$
$0^\circ C$	$\approx$	$32^\circ F$	$30^\circ C$	$\approx$	$86^\circ F$	$36.6^\circ C$	$\approx$	$97.8^\circ F$

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1 mm	≈ 0.03937 inch	1 inch	≈
1 cm	≈ 0.3937 inch	1 inch	≈
1 m	≈ 39.37 inches	1 yard	≈
	= 1.094 yards		
1 m	≈ 3.281 feet	1 foot	≈
1 km	≈ 1093.61 yards	1 mile	≈
	= 0.6214 mile		

$1\ mm^2$	≈ 0.00155 squ. inch	1 square inch	≈
$1\ cm^2$	≈ 0.155 squ. inch	1 square inch	≈
$1\ m^2$	≈ 1.196 squ. yards	1 square yard	≈
$1\ km^2$	≈ 0.386 squ. miles	1 square mile	≈
$1\ km^2$	≈ 247.1 acres	1 acre	≈

1 g	≈ 0.0353 ounce (oz)	1 oz	≈
1 kg	≈ 35.27 ounces (oz)	1 oz	≈
1 kg	≈ 2.205 pounds (lb)	1 lb	≈
1 t	≈ 2204.62 pounds	1 lb	≈
1 t	≈ 19.688 hundredweights (cwt)	1 cwt	≈

1 ml	≈ 0.00176 pint	1 pint	≈
1 cl	≈ 0.0176 pint	1 pint	≈
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$1\ cm^3$	≈ 0.06102 cubic inches	1 cubic inch	≈
$1\ m^3$	≈ 35.315 cubic feet	1 cubic foot	≈
$1\ m^3$	≈ 1.308 cubic yards	1 cubic yard	≈

$-17.8^\circ C \approx 0^\circ F$	$10^\circ C \approx 50^\circ F$	$40^\circ C \approx 104^\circ F$
$-10^\circ C \approx 14^\circ F$	$20^\circ C \approx 68^\circ F$	$100^\circ C \approx 212^\circ F$
$0^\circ C \approx 32^\circ F$	$30^\circ C \approx 86^\circ F$	$36.6^\circ C \approx 97.8^\circ F$

(Pupils' sheet)

LP 47/2f

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a) If 1 inch ≈ 2.5 cm, then 1 cm ≈ ☐ in ≈ ☐ inches

b) If 1 foot ≈ 0.3 m, then 1 m ≈ ☐ ft ≈ ☐ feet

c) If 1 metre ≈ 1.1 yards, then 1 yard ≈ ☐ m ≈ ☐ metres

d) If 1 mile ≈ 1.6 km, then 1 km ≈ ☐ miles ≈ ☐ miles

e) If 1 ounce ≈ 28 g, then 1 g ≈ ☐ oz ≈ ☐ ounce

f) If 1 kg ≈ 2.2 lb, then 1 lb ≈ ☐ kg ≈ ☐ kilograms

g) If 1 pint ≈ 0.57 litres, then 1 litre ≈ ☐ pt ≈ ☐ pints

h) If 1 gallon ≈ 4.5 litres, then 1 litre ≈ ☐ gal ≈ ☐ gallons

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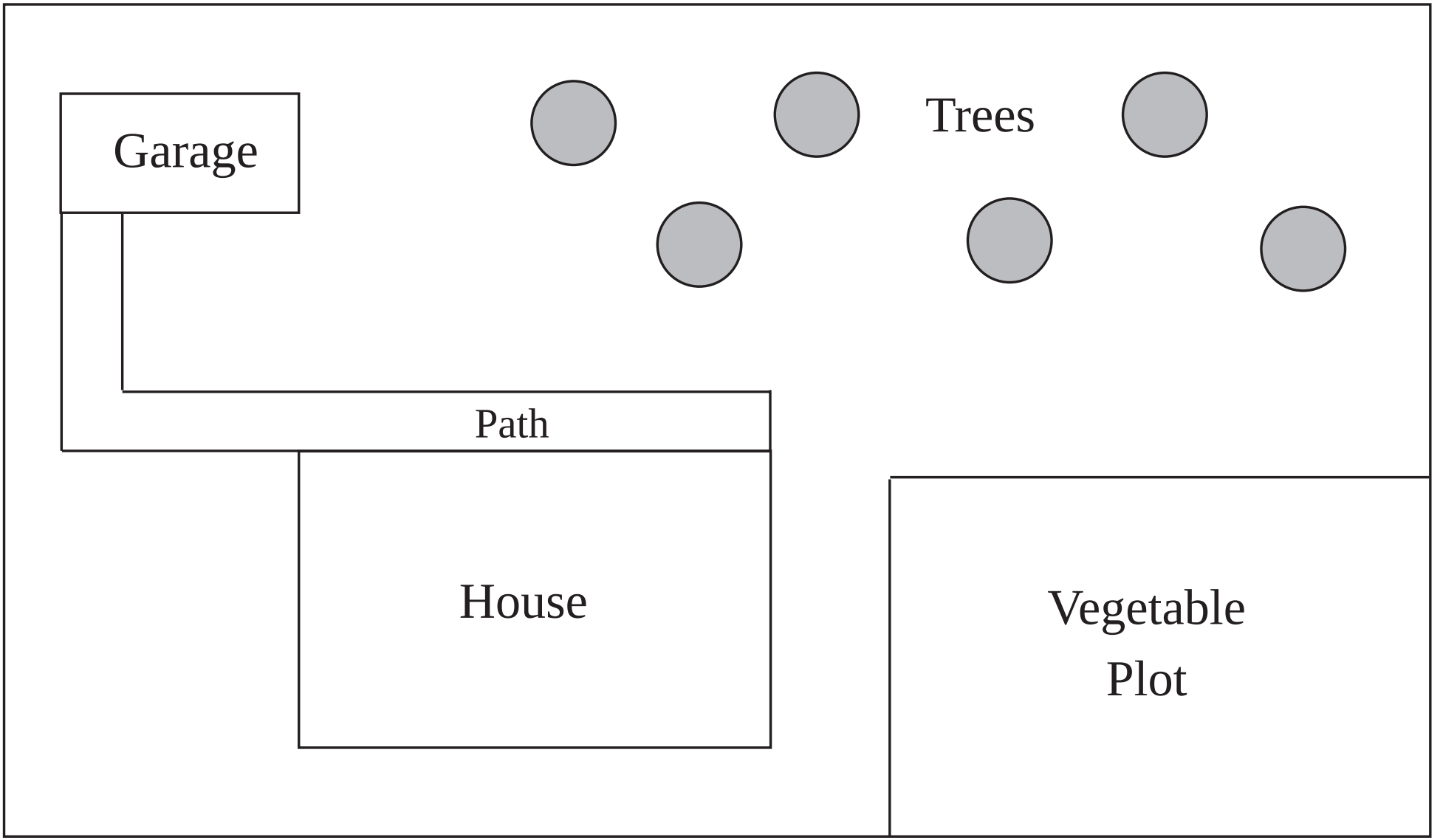
Scale: 1 : 400



(For reference only!)

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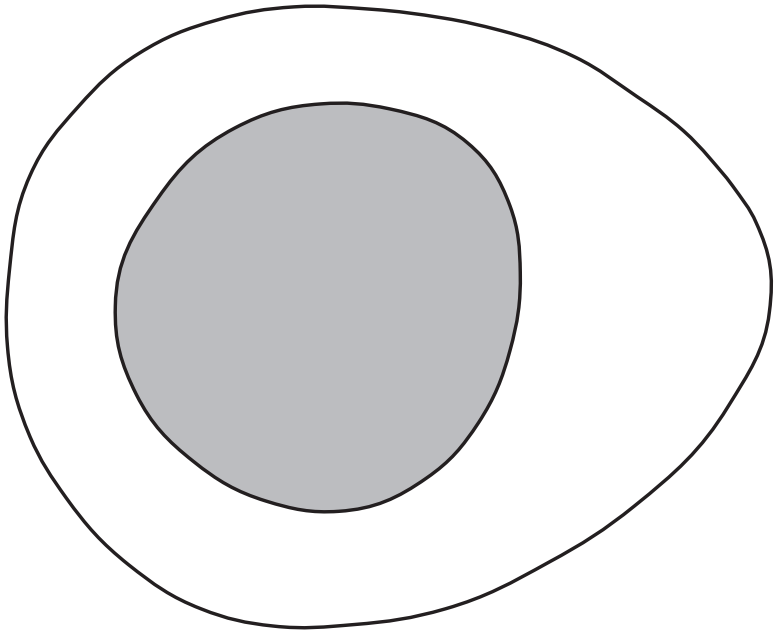
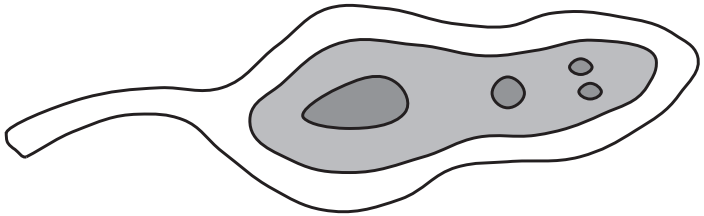
a) Living cell



Scale: 1 : 1

b) Longitudinal section of a bacterium



Scale: 500 : 1

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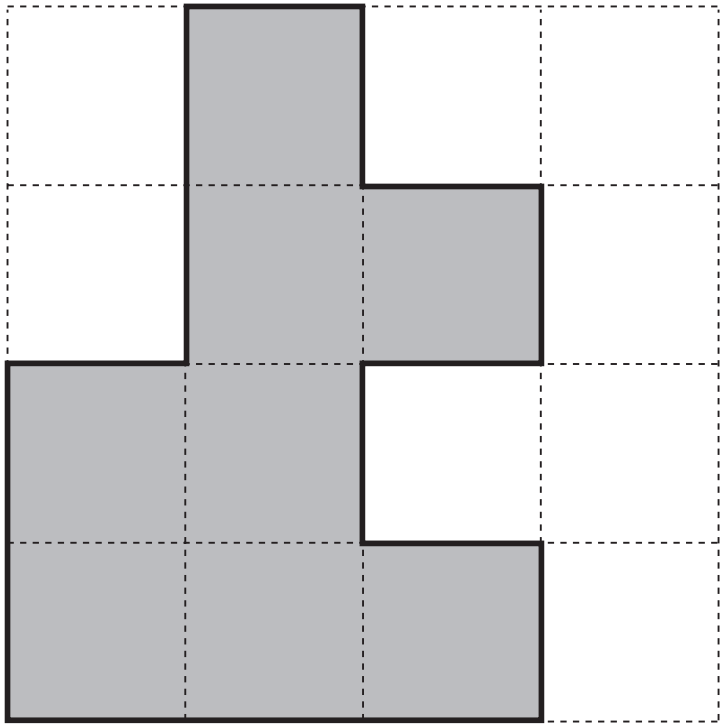
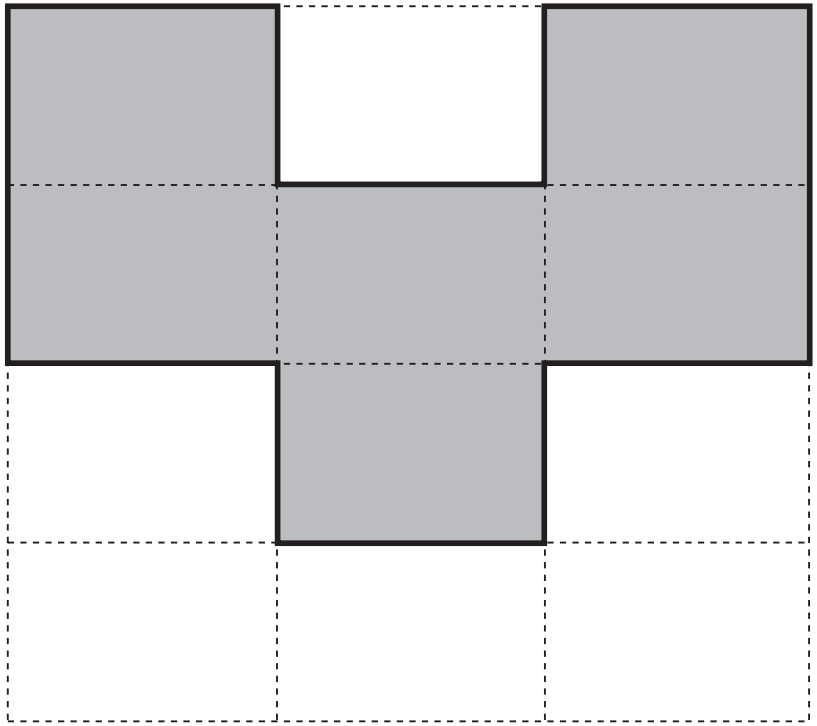
a)



b)



(For reference only!)

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3 h 24 min

34045 g

$\frac{3}{24}$ day

340.45 cm

3.4 hours

3420 ml

3.42 litres

$\frac{171}{500}$ litre

34.2 cl

$34\frac{1}{5}$ cl

£340.45

34045 p

$34\frac{9}{200}$ tonnes

342 ml

34.045 kg

34 045 kg

LP 50/1

---

a)
$$\begin{array}{r} 6\text{ h }\ 53\text{ min }\ 10\text{ sec} \\ +\ 8\text{ h }\ 19\text{ min }\ 55\text{ sec} \\ \hline \\ \hline \end{array}$$

b)
$$\begin{array}{r} 12\text{ h }\ 24\text{ min }\ 5\text{ sec} \\ -\ 4\text{ h }\ 23\text{ min }\ 17\text{ sec} \\ \hline \\ \hline \end{array}$$

c)
$$\begin{array}{r} 16\text{ h }\ 37\text{ min }\ 29\text{ sec} \\ -14\text{ h }\ 51\text{ min }\ 6\text{ sec} \\ \hline \\ \hline \end{array}$$

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