Geometry Math Review Workbook

6 lessons · printable · answer key at the back

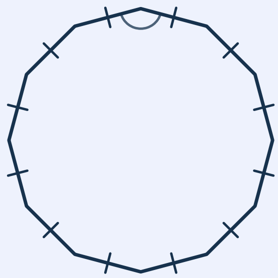
Name ______________________ Date ______________________

Contents

1-1

Angles in Polygons

WORKED EXAMPLE



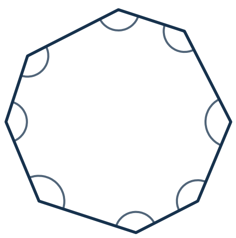
Each of its angles

150 degrees

1. Angles inside a polygon

Work out the angle each shape is asking for. Give every answer in degrees.

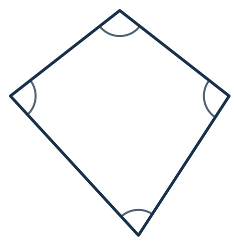
1



All the angles together

________________ degrees

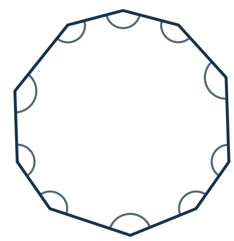
2



All the angles together

________________ degrees

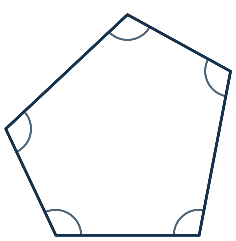
3



All the angles together

________________ degrees

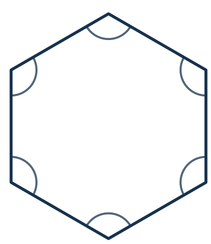
4



All the angles together

________________ degrees

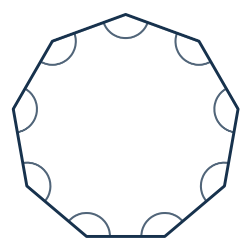
5



All the angles together

________________ degrees

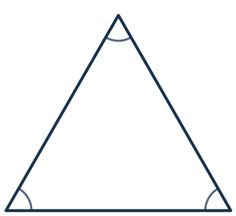
6



All the angles together

________________ degrees

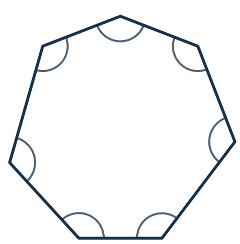
7



All the angles together

________________ degrees

8

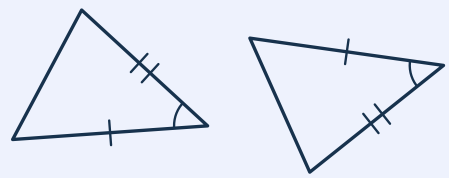


All the angles together

________________ degrees

Congruence Criteria

WORKED EXAMPLE

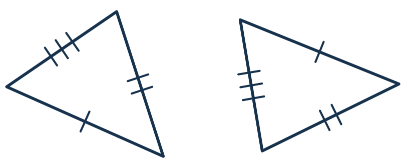


SSS **SAS** ASA AAS HL

2. Which congruence rule (SSS, SAS, ASA, AAS, HL)

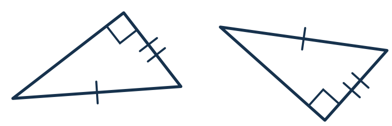
Which rule shows each pair of triangles is congruent?

1



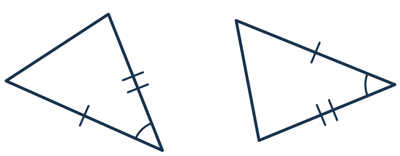
SSS SAS ASA AAS HL

2



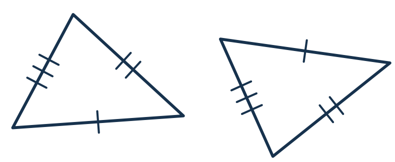
SSS SAS ASA AAS HL

3



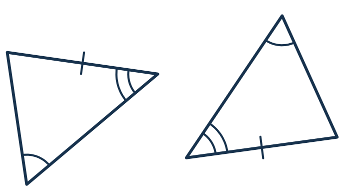
SSS SAS ASA AAS HL

4



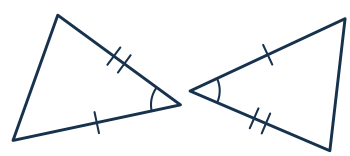
SSS SAS ASA AAS HL

5



SSS SAS ASA AAS HL

6

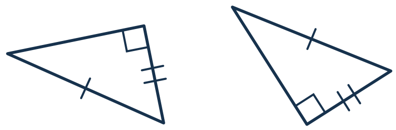


SSS SAS ASA AAS HL

2. Which congruence rule (SSS, SAS, ASA, AAS, HL) (continued)

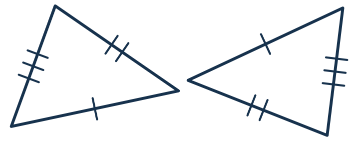
Which rule shows each pair of triangles is congruent?

7



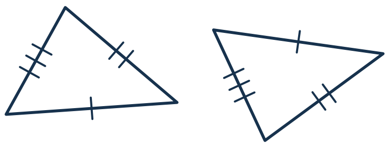
SSS SAS ASA AAS HL

8



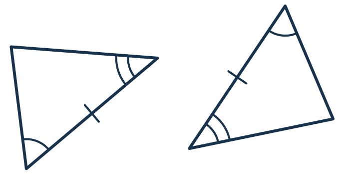
SSS SAS ASA AAS HL

9



SSS SAS ASA AAS HL

10



SSS SAS ASA AAS HL

3. Can these be the sides of a triangle?

Can these three lengths form a triangle? Answer Yes or No.

11

11
12
13

Yes No

12

6
8
12

Yes No

13

10
11
13

Yes No

14

9
12
12

Yes No

15

4
4
8

Yes No

16

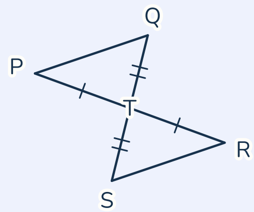
9
12
14

Yes No

1-3

Writing a Proof

WORKED EXAMPLE



Given $\overline{PT} \cong \overline{RT}$; $\overline{QT} \cong \overline{ST}$

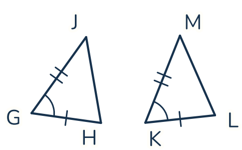
Prove $\triangle PTQ \cong \triangle RTS$

Statements	Reasons
1. $PT \cong RT$	Given
2. $\angle PTQ \cong \angle RTS$	Vertical Angles
3. $QT \cong ST$	Given
4. $\triangle PTQ \cong \triangle RTS$	SAS

4. Write a triangle proof

Write a full two-column proof for each. Reasons may be used more than once.

1

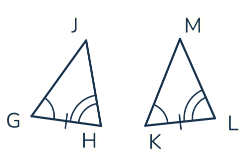


Given $GH \cong KL$; $\angle G \cong \angle K$; $GJ \cong KM$

Prove $\triangle GHJ \cong \triangle KLM$

Statements	Reasons
1.	
2.	
3.	
4.	

2



Given $\angle G \cong \angle K$; $GH \cong KL$; $\angle H \cong \angle L$

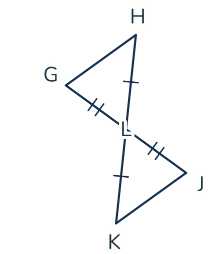
Prove $\triangle GHJ \cong \triangle KLM$

Statements	Reasons
1.	
2.	
3.	
4.	

4. Write a triangle proof (continued)

Write a full two-column proof for each. Reasons may be used more than once.

3

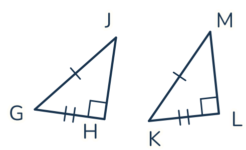


Given L is the midpoint of HK; GL ≅ JL

Prove △GLH ≅ △JLK

Statements	Reasons
1.	
2.	
3.	
4.	

4



Given ∠H and ∠L are right angles; GJ ≅ KM; GH ≅ KL

Prove △GHJ ≅ △KLM

Statements	Reasons
1.	
2.	
3.	
4.	

The Laws of Sines and Cosines

WORKED EXAMPLE

In △ABC, a = 7, ∠A = 50°, ∠B = 60°. Find b: **7.9**

5. Laws of sines and cosines

Use the law of sines. Round each length to one decimal place.

1 In △ABC, a = 6, ∠A = 60°, ∠B = 45°. Find b:

______

2 In △ABC, a = 9, ∠A = 45°, ∠B = 55°. Find b:

______

3 In △ABC, a = 7, ∠A = 40°, ∠B = 60°. Find b:

______

4 In △ABC, a = 10, ∠A = 50°, ∠B = 70°. Find b:

______

5 In △ABC, a = 12, ∠A = 40°, ∠B = 50°. Find b:

______

6 In △ABC, a = 9, ∠A = 65°, ∠B = 40°. Find b:

______

7 In △ABC, a = 5, ∠A = 55°, ∠B = 65°. Find b:

______

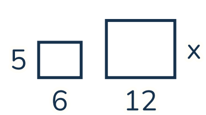
8 In △ABC, a = 11, ∠A = 30°, ∠B = 75°. Find b:

______

6. Similar figures and scale

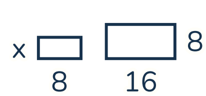
Each pair of shapes is the same shape at two sizes. Find the missing length.

9



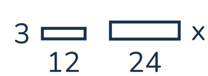
______________ cm

10



______________ cm

11

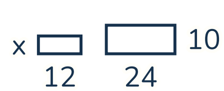


______________ cm

12

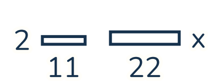
______________ cm

13



______________ cm

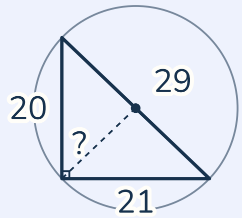
14



______________ cm

Triangles and Circles

WORKED EXAMPLE

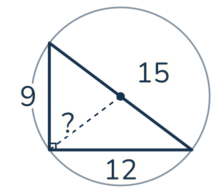


14.5 cm

7. Circles of a right triangle

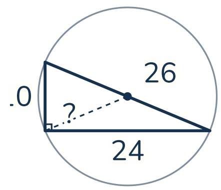
Each circle passes through all three corners. Find its radius.

1



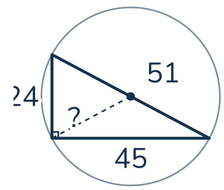
__________ cm

2



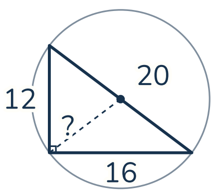
__________ cm

3



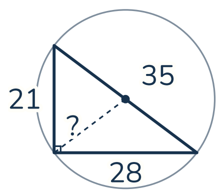
__________ cm

4



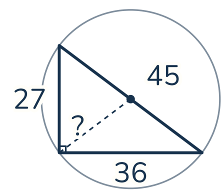
__________ cm

5



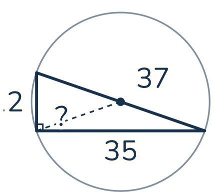
__________ cm

6



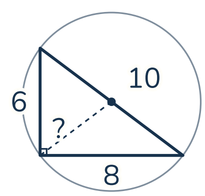
__________ cm

7



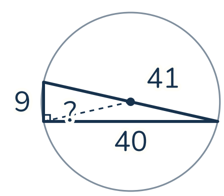
__________ cm

8



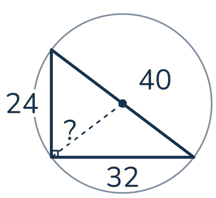
__________ cm

9



__________ cm

10



__________ cm

8. Laws of sines and cosines

Use the law of sines. Round each length to one decimal place.

11 In $\triangle ABC$, $a = 6$, $\angle A = 60°$, $\angle B = 45°$. Find b:

______

12 In $\triangle ABC$, $a = 9$, $\angle A = 45°$, $\angle B = 55°$. Find b:

______

13 In $\triangle ABC$, $a = 7$, $\angle A = 40°$, $\angle B = 60°$. Find b:

______

14 In $\triangle ABC$, $a = 10$, $\angle A = 50°$, $\angle B = 70°$. Find b:

______

15 In $\triangle ABC$, $a = 12$, $\angle A = 40°$, $\angle B = 50°$. Find b:

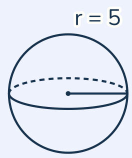
______

16 In $\triangle ABC$, $a = 9$, $\angle A = 65°$, $\angle B = 40°$. Find b:

______

Surface Area of a Sphere

WORKED EXAMPLE

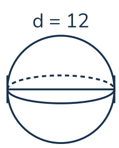


314 cm^2

9. Surface area of a sphere

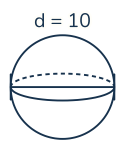
Find the surface area of each sphere. Use $\pi = 3.14$.

1



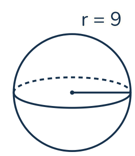
________ cm^2

2



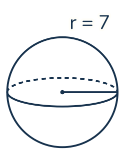
________ cm^2

3



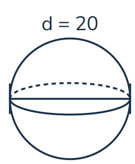
________ cm^2

4



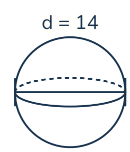
________ cm^2

5



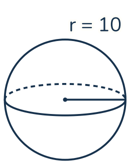
________ cm^2

6



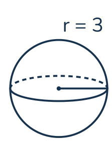
________ cm^2

7



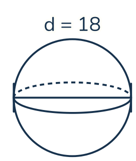
________ cm^2

8



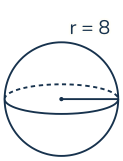
________ cm^2

9



________ cm^2

10

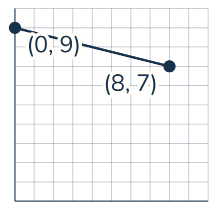


________ cm^2

10. Midpoint of a segment

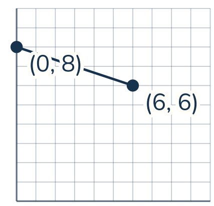
Find the midpoint of each segment.

11



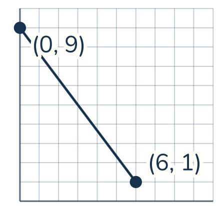
(______ , ______)

12



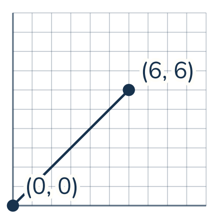
(______ , ______)

13



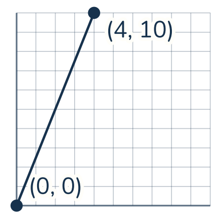
(______ , ______)

14



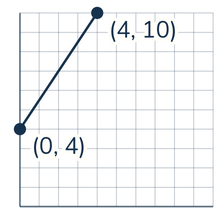
(______ , ______)

15



(______ , ______)

16



(______ , ______)

Answer Key (1 of 2)

Angles in Polygons

Angles inside a polygon

1. 8-sided, all the angles: 1080°
2. 4-sided, all the angles: 360°
3. 10-sided, all the angles: 1440°
4. 5-sided, all the angles: 540°
5. 6-sided, all the angles: 720°
6. 9-sided, all the angles: 1260°
7. 3-sided, all the angles: 180°
8. 7-sided, all the angles: 900°

Congruence Criteria

Which congruence rule (SSS, SAS, ASA, AAS, HL)

1. marked 3 sides: SSS
2. marked a right angle, 2 sides: HL
3. marked 2 sides, 1 angle: SAS
4. marked 3 sides: SSS
5. marked 1 side, 2 angles: AAS
6. marked 2 sides, 1 angle: SAS
7. marked a right angle, 2 sides: HL
8. marked 3 sides: SSS
9. marked 3 sides: SSS
10. marked 1 side, 2 angles: ASA

Can these be the sides of a triangle?

11. 11, 12, 13: Yes
12. 6, 8, 12: Yes
13. 10, 11, 13: Yes
14. 9, 12, 12: Yes
15. 4, 4, 8: No
16. 9, 12, 14: Yes

Writing a Proof

Write a triangle proof

1. ΔGHJ ≅ ΔKLM — 1. GH ≅ KL — Given; 2. ∠G ≅ ∠K — Given; 3. GJ ≅ KM — Given; 4. ΔGHJ ≅ ΔKLM — SAS
2. ΔGHJ ≅ ΔKLM — 1. ∠G ≅ ∠K — Given; 2. GH ≅ KL — Given; 3. ∠H ≅ ∠L — Given; 4. ΔGHJ ≅ ΔKLM — ASA
3. ΔGLH ≅ ΔJLK — 1. HL ≅ KL — Definition of Midpoint; 2. ∠GLH ≅ ∠JLK — Vertical Angles; 3. GL ≅ JL — Given; 4. ΔGLH ≅ ΔJLK — SAS
4. ΔGHJ ≅ ΔKLM — 1. ∠H ≅ ∠L — Given; 2. GJ ≅ KM — Given; 3. GH ≅ KL — Given; 4. ΔGHJ ≅ ΔKLM — HL

The Laws of Sines and Cosines

Laws of sines and cosines

1. In ΔABC, a = 6, ∠A = 60°, ∠B = 45°. Find b: 4.9
2. In ΔABC, a = 9, ∠A = 45°, ∠B = 55°. Find b: 10.4
3. In ΔABC, a = 7, ∠A = 40°, ∠B = 60°. Find b: 9.4

The Laws of Sines and Cosines (continued)

Laws of sines and cosines (continued)

4. In ΔABC, a = 10, ∠A = 50°, ∠B = 70°. Find b: 12.3
5. In ΔABC, a = 12, ∠A = 40°, ∠B = 50°. Find b: 14.3
6. In ΔABC, a = 9, ∠A = 65°, ∠B = 40°. Find b: 6.4
7. In ΔABC, a = 5, ∠A = 55°, ∠B = 65°. Find b: 5.5
8. In ΔABC, a = 11, ∠A = 30°, ∠B = 75°. Find b: 21.3

Similar figures and scale

9. 6 by 5 and 12 by x: 10
10. 8 by x and 16 by 8: 4
11. 12 by 3 and 24 by x: 6
12. 6 by x and 24 by 8: 2
13. 12 by x and 24 by 10: 5
14. 11 by 2 and 22 by x: 4

Triangles and Circles

Circles of a right triangle

1. 9, 12, 15 — through the corners: 7.5 cm
2. 10, 24, 26 — through the corners: 13 cm
3. 24, 45, 51 — through the corners: 25.5 cm
4. 12, 16, 20 — through the corners: 10 cm
5. 21, 28, 35 — through the corners: 17.5 cm
6. 27, 36, 45 — through the corners: 22.5 cm
7. 12, 35, 37 — through the corners: 18.5 cm
8. 6, 8, 10 — through the corners: 5 cm
9. 9, 40, 41 — through the corners: 20.5 cm
10. 24, 32, 40 — through the corners: 20 cm

Laws of sines and cosines

11. In ΔABC, a = 6, ∠A = 60°, ∠B = 45°. Find b: 4.9
12. In ΔABC, a = 9, ∠A = 45°, ∠B = 55°. Find b: 10.4
13. In ΔABC, a = 7, ∠A = 40°, ∠B = 60°. Find b: 9.4
14. In ΔABC, a = 10, ∠A = 50°, ∠B = 70°. Find b: 12.3
15. In ΔABC, a = 12, ∠A = 40°, ∠B = 50°. Find b: 14.3
16. In ΔABC, a = 9, ∠A = 65°, ∠B = 40°. Find b: 6.4

Surface Area of a Sphere

Surface area of a sphere

1. d = 12: 452.16 cm²
2. d = 10: 314 cm²
3. r = 9: 1017.36 cm²
4. r = 7: 615.44 cm²
5. d = 20: 1256 cm²
6. d = 14: 615.44 cm²
7. r = 10: 1256 cm²
8. r = 3: 113.04 cm²
9. d = 18: 1017.36 cm²
10. r = 8: 803.84 cm²

Answer Key (2 of 2)

Surface Area of a Sphere (continued)

Midpoint of a segment

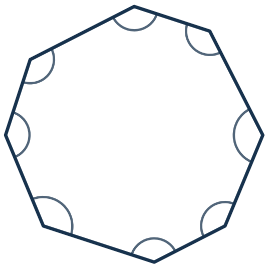
11. (0, 9) and (8, 7): (4, 8)
12. (0, 8) and (6, 6): (3, 7)
13. (0, 9) and (6, 1): (3, 5)
14. (0, 0) and (6, 6): (3, 3)
15. (0, 0) and (4, 10): (2, 5)
16. (0, 4) and (4, 10): (2, 7)

Solutions (1 of 12)

Angles in Polygons

Angles inside a polygon

1.



All the angles together

______ degrees

1080°

There is no separate rule for each shape. Pick one corner of the octagon and draw a line from it to every corner it is not already joined to — the whole shape falls into triangles, and you already know what a triangle's angles come to.

Counting them: the corner you started from reaches every other corner except its own two neighbors, so an 8-sided shape splits into 8 – 2 = 6 triangles.

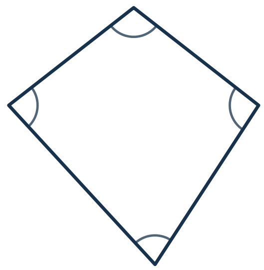
Every triangle's angles add to 180°, and between them the triangles use up every angle of the shape and nothing else. So the whole lot comes to 6 × 180 = 1080°.

So the angles of an octagon add up to 1080°.

Angles in Polygons (continued)

Angles inside a polygon (continued)

2.



All the angles together

____ degrees

360°

There is no separate rule for each shape. Pick one corner of the quadrilateral and draw a line from it to every corner it is not already joined to — the whole shape falls into triangles, and you already know what a triangle's angles come to.

Counting them: the corner you started from reaches every other corner except its own two neighbors, so a 4-sided shape splits into 4 – 2 = 2 triangles.

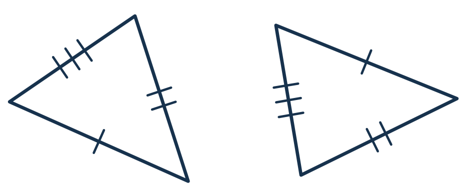
Every triangle's angles add to 180°, and between them the triangles use up every angle of the shape and nothing else. So the whole lot comes to 2 × 180 = 360°.

So the angles of a quadrilateral add up to 360°.

Congruence Criteria

Which congruence rule (SSS, SAS, ASA, AAS, HL)

1.



SSS SAS ASA AAS HL

SSS

Read the marks first — they are the givens. Here there are three pairs of equal sides, and no angles.

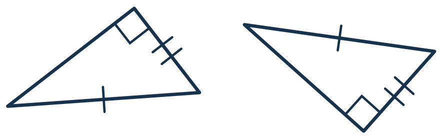
Three pairs of equal sides pin a triangle down completely — there is only one triangle with those three lengths.

So the rule is SSS.

Congruence Criteria (continued)

Which congruence rule (SSS, SAS, ASA, AAS, HL) (continued)

2.



SSS SAS ASA AAS HL

HL

Read the marks first — they are the givens. Here there are a right angle in each, and the hypotenuse with one leg marked equal.

In a right triangle the hypotenuse and one leg give the other leg by Pythagoras, so the two triangles have to match.

So the rule is HL.

Can these be the sides of a triangle?

11.

Yes No

Yes

Three lengths make a triangle only when the two shorter sides add to more than the longest. The two shorter are 11 and 12; the longest is 13.

$11 + 12 = 23$, which is more than 13.

The two shorter sides reach past the longest, so they close into a triangle. Yes.

Congruence Criteria (continued)

Can these be the sides of a triangle? (continued)

12.

6

8

12

Yes No

Yes

Three lengths make a triangle only when the two shorter sides add to more than the longest. The two shorter are 6 and 8; the longest is 12.

6 + 8 = 14, which is more than 12.

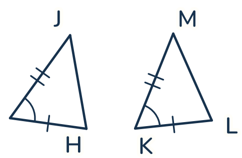
The two shorter sides reach past the longest, so they close into a triangle. Yes.

Solutions (5 of 12)

Writing a Proof

Write a triangle proof

1.



Given GH ≅ KL; ∠G ≅ ∠K; GJ ≅ KM

Prove ΔGHJ ≅ ΔKLM

Statements	Reasons
1.	
2.	
3.	
4.	

Prove: **ΔGHJ ≅ ΔKLM**

1. GH ≅ KL → **Given**
2. ∠G ≅ ∠K → **Given**
3. GJ ≅ KM → **Given**
4. ΔGHJ ≅ ΔKLM → **SAS**

You are given GH ≅ KL; ∠G ≅ ∠K; GJ ≅ KM, and you have to prove ΔGHJ ≅ ΔKLM. Build it one line at a time — each line is a statement and the reason it is true.

1. GH ≅ KL — This fact is handed to you in the Given — nothing has to justify it.

2. ∠G ≅ ∠K — This fact is handed to you in the Given — nothing has to justify it.

3. GJ ≅ KM — This fact is handed to you in the Given — nothing has to justify it.

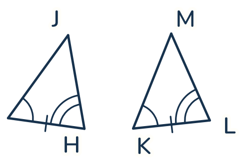
4. ΔGHJ ≅ ΔKLM — Two pairs of sides and the angle between them are equal: SAS.

That is the whole proof: the last line, ΔGHJ ≅ ΔKLM, follows by SAS.

Writing a Proof (continued)

Write a triangle proof (continued)

2.



Given $\angle G \cong \angle K$; $GH \cong KL$; $\angle H \cong \angle L$

Prove $\Delta GHJ \cong \Delta KLM$

Statements	Reasons
1.	
2.	
3.	
4.	

Prove: $\Delta GHJ \cong \Delta KLM$

1. $\angle G \cong \angle K$ → Given
2. $GH \cong KL$ → Given
3. $\angle H \cong \angle L$ → Given
4. $\Delta GHJ \cong \Delta KLM$ → ASA

You are given $\angle G \cong \angle K$; $GH \cong KL$; $\angle H \cong \angle L$, and you have to prove $\Delta GHJ \cong \Delta KLM$. Build it one line at a time — each line is a statement and the reason it is true.

1. $\angle G \cong \angle K$ — This fact is handed to you in the Given — nothing has to justify it.

2. $GH \cong KL$ — This fact is handed to you in the Given — nothing has to justify it.

3. $\angle H \cong \angle L$ — This fact is handed to you in the Given — nothing has to justify it.

4. $\Delta GHJ \cong \Delta KLM$ — Two pairs of angles and the side between them are equal: ASA.

That is the whole proof: the last line, $\Delta GHJ \cong \Delta KLM$, follows by ASA.

The Laws of Sines and Cosines

Laws of sines and cosines

1. In ΔABC, $a = 6$, $\angle A = 60°$, $\angle B = 45°$. Find b: ____

$$b = a \cdot \sin B / \sin A$$

$$b = 6 \cdot \sin 45° / \sin 60°$$

$$b \approx 4.9$$

Two angles and the side opposite one — that is the law of sines: $a/\sin A = b/\sin B$.

Substitute $a = 6$, $A = 60°$, $B = 45°$.

Evaluate and round to one place: $b \approx 4.9$.

Solutions (7 of 12)

The Laws of Sines and Cosines (continued)

Laws of sines and cosines (continued)

2. In $\triangle ABC$, $a = 9$, $\angle A = 45°$, $\angle B = 55°$. Find b: ______

$$b = a \cdot \sin B / \sin A$$
$$b = 9 \cdot \sin 55° / \sin 45°$$
$$b \approx 10.4$$

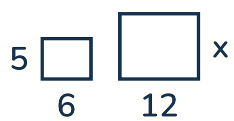
Two angles and the side opposite one — that is the law of sines: a/sin A = b/sin B.

Substitute a = 9, A = 45°, B = 55°.

Evaluate and round to one place: $b \approx 10.4$.

Similar figures and scale

9.



___ cm

10 cm

Two shapes, the same shape at two sizes. Every side of the big one is the matching side of the small one multiplied by the SAME number — so the first job is to pair the sides up: long with long, short with short.

Use the pair you can see both of. 6 became 12, and $12 \div 6 = 2$ — so every side is 2 times bigger.

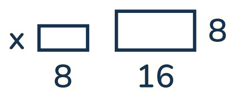
Now the missing side is on the BIG shape, so it grows: $5 \times 2 = 10$.

Check it against the picture: the answer should be bigger than 5, and 10 is. So the missing side is 10 cm.

The Laws of Sines and Cosines (continued)

Similar figures and scale (continued)

10.



___ cm

4 cm

Two shapes, the same shape at two sizes. Every side of the big one is the matching side of the small one multiplied by the SAME number — so the first job is to pair the sides up: long with long, short with short.

Use the pair you can see both of. 8 became 16, and 16 ÷ 8 = 2 — so every side is 2 times bigger.

Now the missing side is on the SMALL shape, so it shrinks — divide instead of multiply: 8 ÷ 2 = 4.

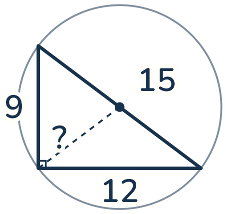
Check it against the picture: the answer should be smaller than 8, and 4 is. So the missing side is 4 cm.

Solutions (9 of 12)

Triangles and Circles

Circles of a right triangle

1.



____ cm

right angle on the circle → **180° at the center**

the 15 cm side = **the diameter**

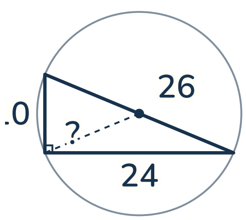
15 ÷ 2 = **7.5**

The corner between the two short sides is a RIGHT angle, and it is sitting on the circle looking straight across at the hypotenuse. An angle on a circle is half the one at the center, so the angle at the center here is 180° — a straight line.

A straight line through the center IS a diameter. So the hypotenuse is the diameter, and the center of the circle is its midpoint — not somewhere inside the triangle.

The radius is half the diameter: 15 ÷ 2 = 7.5. So the circle through all three corners has a radius of 7.5 cm, and the two short sides never come into it.

2.



____ cm

right angle on the circle → **180° at the center**

the 26 cm side = **the diameter**

26 ÷ 2 = **13**

The corner between the two short sides is a RIGHT angle, and it is sitting on the circle looking straight across at the hypotenuse. An angle on a circle is half the one at the center, so the angle at the center here is 180° — a straight line.

A straight line through the center IS a diameter. So the hypotenuse is the diameter, and the center of the circle is its midpoint — not somewhere inside the triangle.

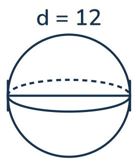
The radius is half the diameter: 26 ÷ 2 = 13. So the circle through all three corners has a radius of 13 cm, and the two short sides never come into it.

Solutions (10 of 12)

Surface Area of a Sphere

Surface area of a sphere

1.



______ cm^2

diameter: 12 cm

$12 \div 2 = 6$

$6 \times 6 = 36$

$12.56 \times 36 = 452.16$

452.16 cm^2

The 12 cm marked here goes right ACROSS the sphere — that is the diameter. The formula wants the radius, and using the diameter instead makes the answer FOUR times too big, because it is squared.

Half of 12 is 6, so $r = 6$ cm.

Square the radius on a line of its own. r^2 means $r \times r$, not $r \times 2$: $6 \times 6 = 36$.

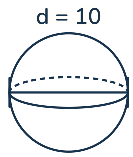
Now four times π, times that: 4×3.14 is 12.56, and $12.56 \times 36 = 452.16$. Nothing to round — 12.56 times a whole number always lands on a whole number of hundredths.

So the surface area is 452.16 square cm. Square, not cubic — a surface is skin rather than space, and the unit is the quickest way to notice you have answered the volume question instead.

Surface Area of a Sphere (continued)

Surface area of a sphere (continued)

2.



____ cm^2

diameter: 10 cm

$10 \div 2 = \mathbf{5}$

$5 \times 5 = \mathbf{25}$

$12.56 \times 25 = \mathbf{314}$

314 cm^2

The 10 cm marked here goes right ACROSS the sphere — that is the diameter. The formula wants the radius, and using the diameter instead makes the answer FOUR times too big, because it is squared.

Half of 10 is 5, so r = 5 cm.

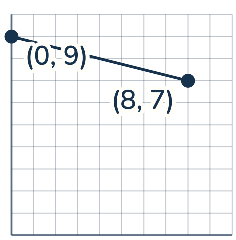
Square the radius on a line of its own. r^2 means r × r, not r × 2: 5 × 5 = 25.

Now four times π, times that: 4 × 3.14 is 12.56, and 12.56 × 25 = 314. Nothing to round — 12.56 times a whole number always lands on a whole number of hundredths.

So the surface area is 314 square cm. Square, not cubic — a surface is skin rather than space, and the unit is the quickest way to notice you have answered the volume question instead.

Midpoint of a segment

11.



(____, ____)

$(0 + 8) \div 2 = \mathbf{4}$

$(9 + 7) \div 2 = \mathbf{8}$

(4, 8)

The midpoint is halfway between, so average each coordinate on its own. The x's first: (0 + 8) ÷ 2 = 4.

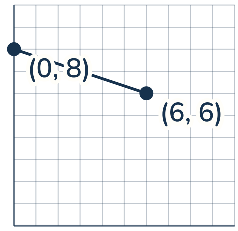
Now the y's the same way: (9 + 7) ÷ 2 = 8.

So the midpoint is (4, 8).

Surface Area of a Sphere (continued)

Midpoint of a segment (continued)

12.



(___, ___)

(0 + 6) ÷ 2	=	**3**
(8 + 6) ÷ 2	=	**7**
	(3, 7)	

The midpoint is halfway between, so average each coordinate on its own. The x's first: (0 + 6) ÷ 2 = 3.

Now the y's the same way: (8 + 6) ÷ 2 = 7.

So the midpoint is (3, 7).