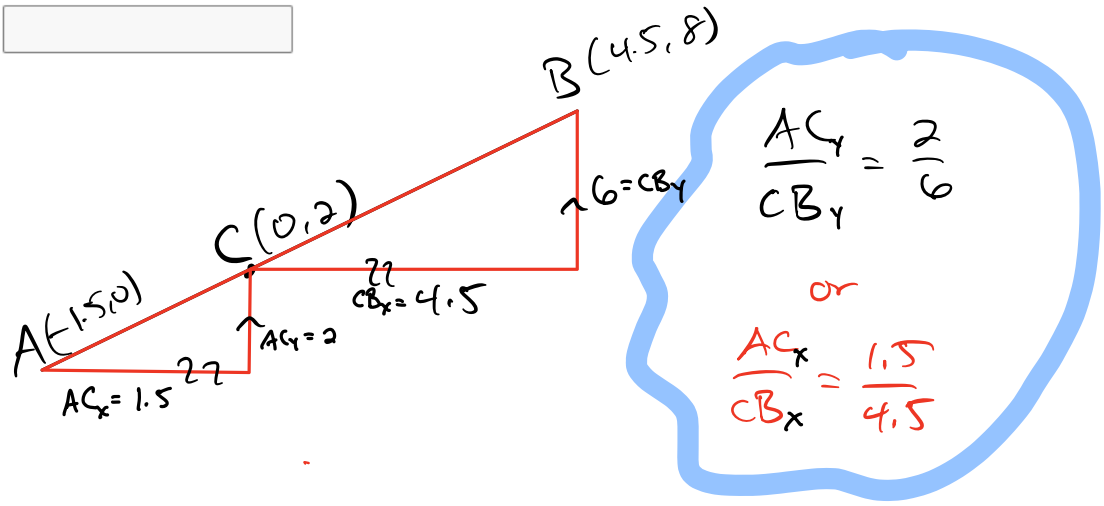
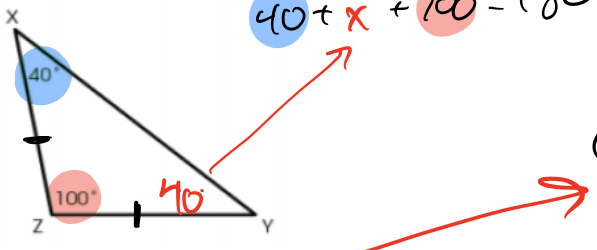
2026 Q3 Review Part 1

1 Line segment AB has endpoints $A\,(-1.5,\ 0)$ and $B\,(4.5,\ 8)$. Point C is on line segment AB and is located at $(0,\ 2)$
What is the ratio of $\frac{AC}{CB}$?



2 Triangle XYZ is shown.



40 + x + 100 = 180

Corresponding sides proportional

Corresponding angles congruent

Which triangle must be similar to triangle XYZ?

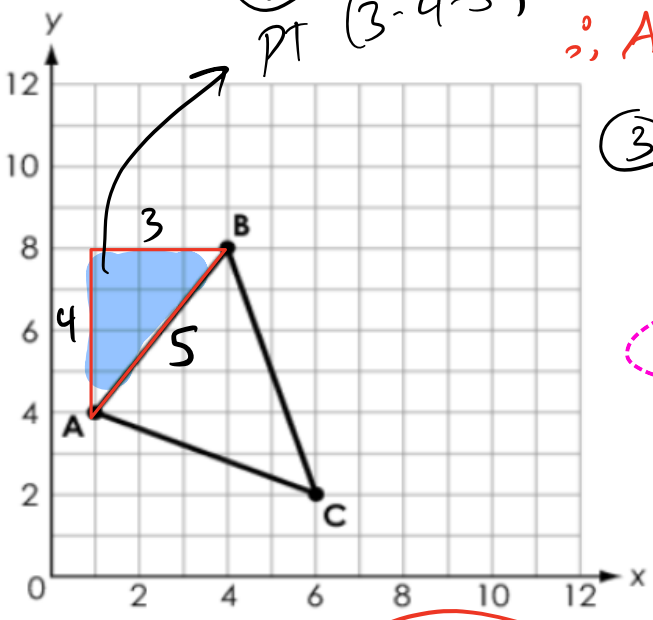
(A) a triangle with two angles that measure $40°$ 40 + 40 + 100 = 180

(B) a triangle with angles that measure $40°$ and $60°$ 40 + 60 + 100 ≠ 180

(C) a scalene triangle with only one angle that measures $100°$ False

(D) an isosceles triangle with only one angle that measures $40°$ 40 + 100 + 100 ≠ 180

3 Triangle ABC is shown.



Triangle $A'B'C'$ is created by dilating ΔABC by 4.
What is the length of $\overline{A'B'}$?

(2) PT (3-4-5) ∴ AB = 5

(3) $A'B' = AB \cdot 4$
$= 5 \cdot 4$
$A'B' = 20$

(1) multiply by 4
∴ $k = 4$

4 Angle A is the complement of angle B.
Which equation about the two angles must be true?

(A) $\sin A = \sin B$

(B) $\sin A = \cos A$

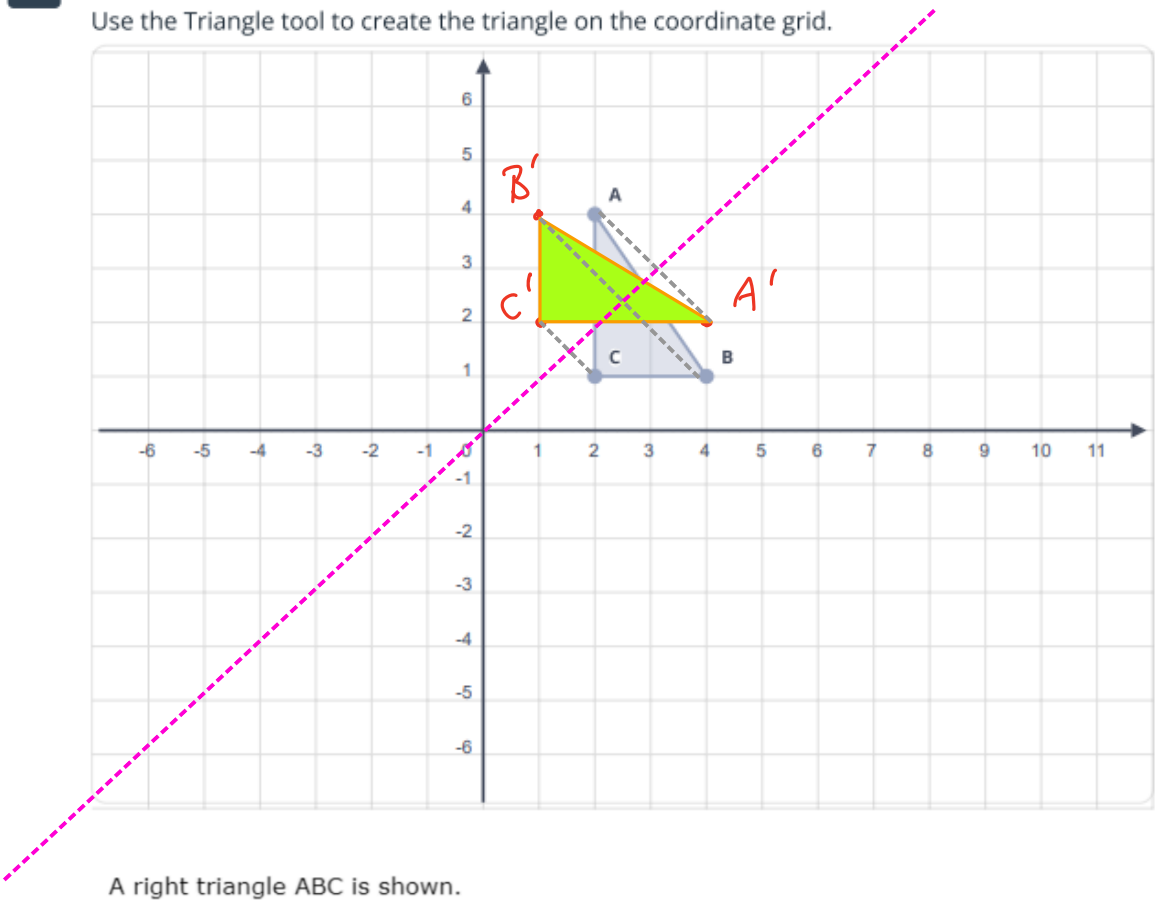
(C) $\cos B = \sin B$

(D) $\cos A = \sin B$

$\sin A = \cos B$
AND
$\sin B = \cos A$

5 Triangle ABC is reflected across the line $y = x$.

Use the Triangle tool to create the triangle on the coordinate grid.



A right triangle ABC is shown.

6



$\cos A = \frac{\text{adj leg}}{\text{hyp}}$

What is cos A?

$\frac{8}{17}$

7

Line *k* has a slope of −5. Line *j* is perpendicular to line *k* and passes through the point (5, 9).

Create the equation for line *j*.

Point	Slope	Point-slope form
(5, 9)	$m = -5$	$y - y_1 = m(x - x_1)$
	$-\frac{1}{m} = \frac{1}{5}$	$y - 9 = \frac{1}{5}(x - 5)$

A triangle is shown.

8 .



Method 1: 30-60-90

$\therefore a = 22$

Method 2: $\sin(30) = \frac{a}{44}$

$44\sin(30) = a$

$22 = a$

What is the length, in inches (in.), of side *a*?

[ ] in.

9 Which terms is defined as two intersecting lines that form four right angles?

(A) skew lines — non-coplanar & don't touch

(B) straight lines — ALL LINES ARE STRAIGHT

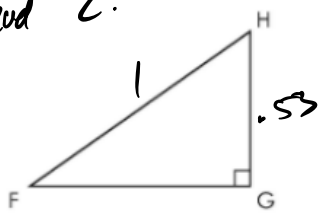
(C) parallel lines — coplanar & don't touch

(D) perpendicular lines

2026 Q3 Part 2 Review

1

Right triangle FHG is shown.



Method 2:

$\sin(F) = .53 = \frac{.53}{1}$

$\therefore \cos(F) = \frac{.53}{1} = .53$

The sine of $\angle F$ is 0.53.

What is the cosine of $\angle H$? Round your answer to the nearest hundredth as needed.

Method 1: $\angle F$ and $\angle H$ are complements

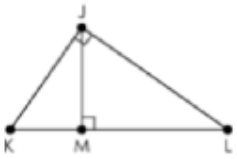
$\therefore \sin(F) = \cos(H) = .53$

2

Triangle MNO is transformed to produce triangle PQR.
Select all the transformations that would guarantee triangles MNO and PQR are congruent

- [ ] A a dilation, then a translation
- [ ] B a reflection, then a dilation
- [x] C a reflection, then a rotation
- [x] D a rotation, then a translation
- [x] E a translation, then a reflection

3 Mark is proving the Pythagorean Theorem. He draws right triangle JKL with altitude $\overline{JM}$. First he proves $\Delta JKL \sim \Delta MKJ$ and $\Delta JKL \sim \Delta MJL$ using the Angle - Angle criterion. The rest of his proof is shown with some steps missing.



Statements	Reasons
1. $\Delta JKL \sim \Delta MKJ \text{ and } \Delta JKL \sim \Delta MKL$	1. Angle - Angle Criterion
2. $\frac{JK}{LK} = \frac{MK}{JK} \text{ and } \frac{LJ}{LK} = \frac{ML}{LJ}$	2. Corresponding sides of similar triangles are proportional
3. $(JK)^2 = LK \cdot MK \text{ and } (LJ)^2 = LK \cdot ML$	3. Multiplication property of equality
4.	4.
5.	5.
6. $MK + ML = LK$	6. Segment Addition Postulate
7. $(JK)^2 + (LJ)^2 = (LK)^2$	7. Substitution

$LK(MK \cdot ML) \neq LK \cdot MK \cdot LK \cdot ML$

Ⓐ

4. $(JK)^2+(LJ)^2=LK\cdot MK+LK\cdot ML$	4. Addition property of equality ✓
5. $(JK)^2+(LJ)^2=LK(MK+ML)$	5. Distributive property ✓

Ⓒ

4. $(JK)^2\cdot(JK)^2=LK\cdot MK\cdot LK\cdot ML$ ✓	4. Multiplication property of equality
5. $(JK)^2\cdot(LJ)^2=LK(MK\cdot ML)$ ✗	5. Distributive property

Ⓑ

4. $(JK)^2+(LJ)^2=LK\cdot MK+LK\cdot ML$ ✓	4. Addition property of equality
5. $(JK)^2+(LJ)^2=LK(LK+LK)$ ✗	5. Distributive property

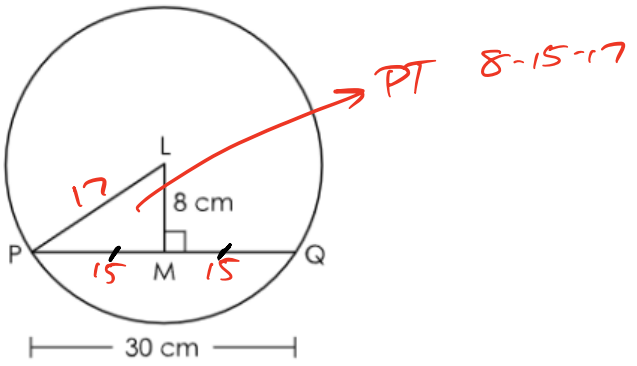
Ⓓ

4. $(JK)^2\cdot(JK)^2=LK\cdot MK\cdot LK\cdot ML$ ✓	4. Multiplication property of equality
5. $(JK)^2\cdot(LJ)^2=LK(LK\cdot LK)$ ✗	5. Distributive property

$LK(LK+LK) \neq LK \cdot MK + LK \cdot ML$

$LK(LK \cdot LK) \neq LK \cdot MK \cdot LK \cdot ML$

4 In the figure shown, L is the center of the circle and $\overline{PQ}$ is a chord of the circle measuring 30 centimeters (**cm**).

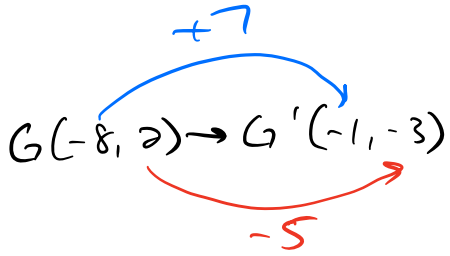


What is the length, in centimeters of $\overline{PL}$?

17 *cm*

5 A sequence of translations maps a GHI to $\triangle G'H'I'$.

- $\triangle GHI$ has vertices at $G\,(-8, 2)$, $H\,(13, 2)$, and $I(-2, 10)$.
- The coordinates of G' are $(-1, -3)$.



What are the coordinates for H' and I'?

$H'($ 20 , -3 $)$

$I'($ 5 , 5 $)$

6 A circle with center L contains points J and K. Circle L is dilated by a factor of 2, resulting in a new circle with center P. Points M and N are on circle P such that central angle MPN has the same measure as central angle JLK.

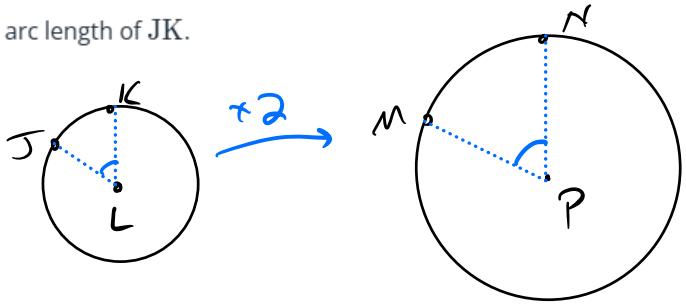
Which statement correctly identifies the relationship between the arc length of JK and the arc length of MN?

(A) The arc length of JK is half the arc length of MN.

(B) The arc length of MN is half the arc length of JK.

(C) The arc length of JK is a quarter of the arc length of MN.

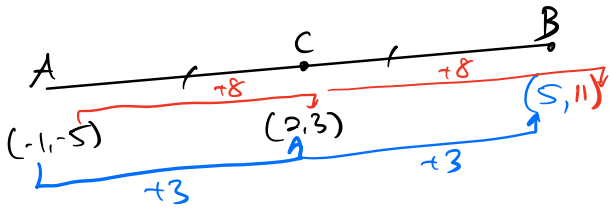
(D) The arc length of MN is a quarter of the arc length of JK.



7 Point A is located at $(-1, -5)$. The midpoint of line segment AB is point $C(2, 3)$.

What are the coordinates of point B?

(5 , 11)



8 In triangle ABC, $\angle A$ and $\angle B$ are complementary, where $\cos A = 0.5$.

What is the measure, in degrees, of $\angle B$?

30 ***degrees***

$\cos A = .5$

$A = \cos^{-1}(.5)$

$A = 60°$

$m\angle A + m\angle B = 90$

$60 + m\angle B = 90$

$m\angle B = 30$

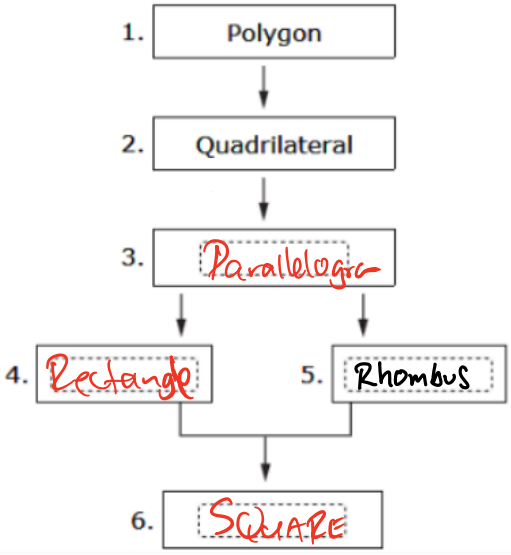
9 A partially completed chart shows the hierarchy of a set of polygons.

Move a term to each blank box to complete the chart.

DRAG & DROP THE ANSWER

Parallelogram
Rectangle
Square
Kite

Note: Use CTRL+D to drag the option via keyboard

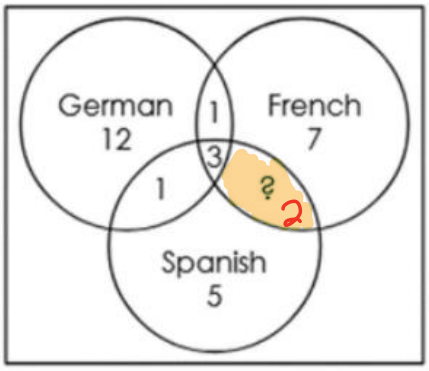


2026 Q3 part 3 Review

1 Alicia surveys 31 people about how many world languages they speak. She finds that 11 people speak Spanish, 17 people speak German, and 13 people speak French. Part of the data she collects is shown in the Venn diagram.

Spanish = 1 + 3 + ? + 5 = 11

French = 1 + 3 + 7 + ? = 13



How many people does Alicia survey that speak both French and Spanish but not German?

2

2 A scientist conducts experiments on bacteria using three different conditions, A, B and C. The table shows the probabilities of the bacteria being affected by each condition.

Probabilities

Individual	Conditional
$p(A) = \frac{50}{100} = \frac{1}{2}$	$P(A \mid B) = \frac{15}{65} = \frac{3}{13}$
$P(B) = \frac{65}{100} = \frac{13}{20}$	$P(A \mid C) = \frac{10}{20} = \frac{1}{2}$
$P(C) = \frac{20}{100} = \frac{1}{5}$	$P(B \mid C) = \frac{15}{20} = \frac{4}{5}$

Complete the statements to explain which two conditions are independent.

Two conditions that are independent of each other are conditions **a**

The scientist can conclude this because **b** = **c**

a

- A and B
- A and C ✓
- B and C

b

- P(A)
- P(B)
- P(C)
- P(A | B)
- P(A | C) ✓
- P(B | C)

c

- P(A) ✓
- P(B)
- P(C)
- P(A | B)
- P(A | C)
- P(B | C)

3 Which pair of compound events is dependent? 1st Event changes 2nd Event

(A) rolling a cube numbered 1 through 6, twice

(B) Spinning the arrow on a spinner with 6 unequal sections, twice

(C) drawing two cards from a deck one at a time, with replacement

(D) picking two crayons from a box one at a time, without replacement

4 The probabilities of two independent events are given.

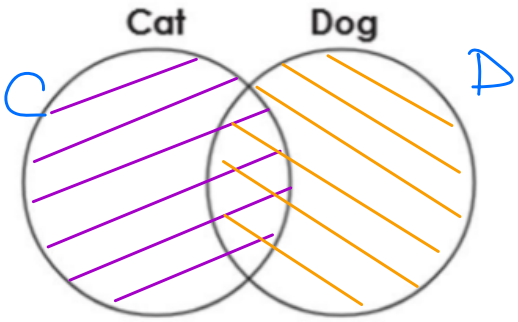
$P(A) = 0.82$
$P(B) = 0.60$

What is $P(A \cap B)$?

.492

$P(A \cap B) = P(A \text{ and } B) = P(A) \cdot P(B)$
$= (0.82)(0.60)$
$= 0.492$

5 Rodas asks pet owners whether they own a cat or a dog and records the data in the Venn diagram shown.



Let C be the event that a pet owner owns a cat and D be the event that a pet owner owns a dog.

Which expression can be used to find the probability that a pet owner owns a oat or a dog?

(A) $P(C) + P(D) - P(C \cup D)$ (or)

(B) $P(C) + P(D) - P(C \cap D)$ (and)

(C) $P(C) + P(D) + P(C \cup D)$ (or)

(D) $P(C) + P(D) + P(C \cap D)$ (AND)

All of C and All D, MINUS intersection

intersection is counted twice.

6 There are 45 red marbles and 45 blue marbles in a bag. Santino draws 1 red marble from the bag and does not replace it. Then he draws 1 more marble from the bag.

Select a word or phrase for each blank box to describe the likelihood that the second marble Santino draws is blue.

Santino drawing a blue marble on the second draw is **a** likely to happen than it was on the first draw because the two events are **b**

a
- less
- more
- equally

b
- dependent.
- independent.
- neither dependent nor independent.

$P(B) = \frac{45}{90}$

$P(B|R) = \frac{45}{89}$

7 This item has two parts.

(a) Carlos runs every morning. Every day after his morning run, he records the average temperature, in degrees Fahrenheit ($^\circ F$), and whether Of not he sew other runners.

- Carlos makes a table to compare the data during his lest 30 runs.
- The average temperature was above $65^\circ F$ more days than it was below $65^\circ F$.
- He did not see other runners on 5 days when the average temperature was below $65^\circ F$.
- He saw other runners twice as frequently when the average temperature was above $65^\circ F$ Men when it was below $65^\circ F$.

Part A

Complete the table to show a possible number of days each event occurred.

	Sees no runners	Sees other runners
Below $65^\circ F$	5	5 x
Above $65^\circ F$	10	10 2x

(b) Part B

Based on the data in the table, what is the probability that Carlos will see another runner given that the average temperature is below $65^\circ F$?

$\frac{1}{2}$

8 A bag has pink and black bracelets. Jeremy picks a black bracelet from the bag and does not replace it.

- Event X Picking a black bracelet.
- Event Y Picking a pink bracelet.

X

Jeremy picks a second bracelet from the bag.

Which expression describes the probability that the second bracelet is pink?

(A) $P(Y|X)$

He picks Y given he already picked X

(B) $P(X|Y)$

(C) $P(X \cup Y)$

(D) $P(X \cap Y)$

9 Probabilities for two independent events, B and C, are given.

- $P(B) = 0.20$
- $P(C) = 0.75$

What is $P(B \text{ and } C)$?

$= P(B) \cdot P(C)$

$= (0.20)(0.75)$

0.15