Geometry Final Exam

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MATH

Geometry Final Exam

This exam is comprehensive over the entire course and includes 12 questions. You have 60 minutes to complete the exam.

The exam is worth 100 points. The 8 multiple choice questions are worth 5 points each (40 points total) and the 4 free response questions are worth 15 points each (60 points total).

Mark your multiple choice answers on this cover page. For the free response questions, show your work and make sure to circle your final answer.

1. (5 pts) A B C D E

2. (5 pts) A B C D E

3. (5 pts) A B C D E

4. (5 pts) A B C D E

5. (5 pts) A B C D E

6. (5 pts) A B C D E

7. (5 pts) A B C D E

8. (5 pts) A B C D E

1. **(5 pts)** Points $(1,3)$ and $(7,7)$ lie on line AB. What is the slope of a line perpendicular to AB?

A $\frac{1}{3}$

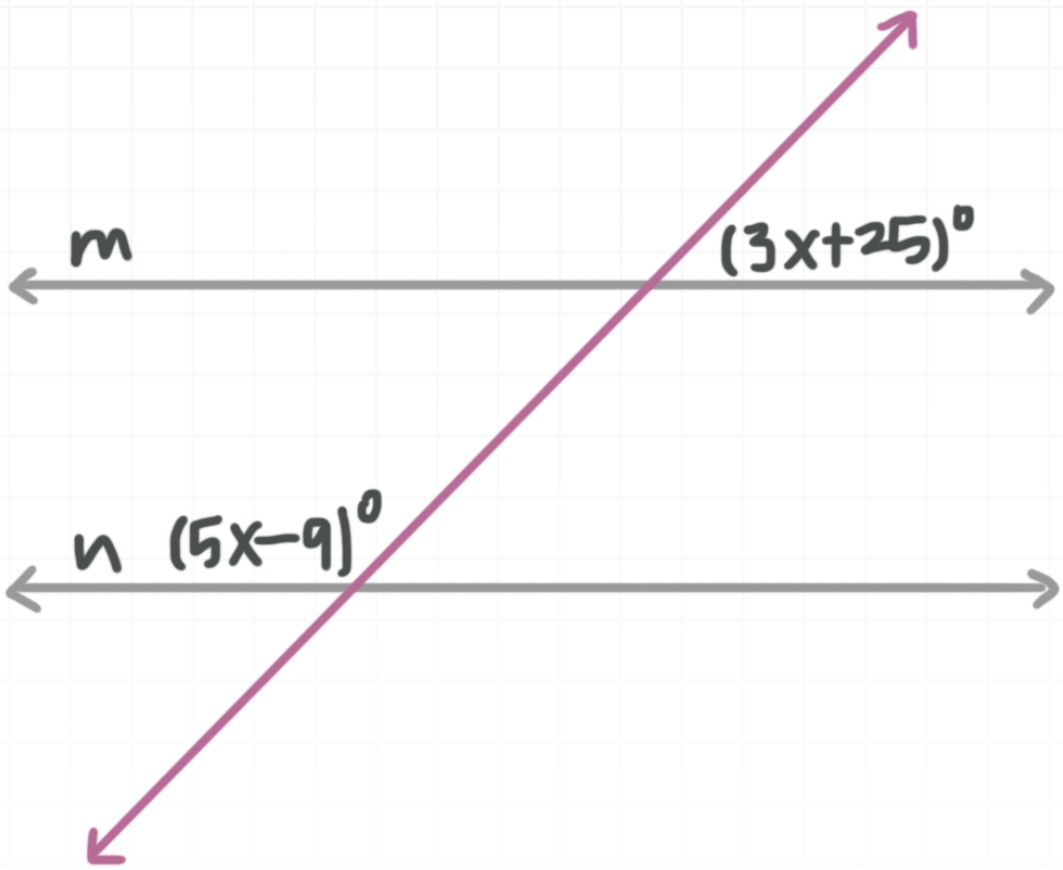
B $-\frac{2}{3}$

C $\frac{3}{2}$

D $\frac{2}{3}$

E $-\frac{3}{2}$

2. **(5 pts)** Solve for x, given $m \parallel n$.

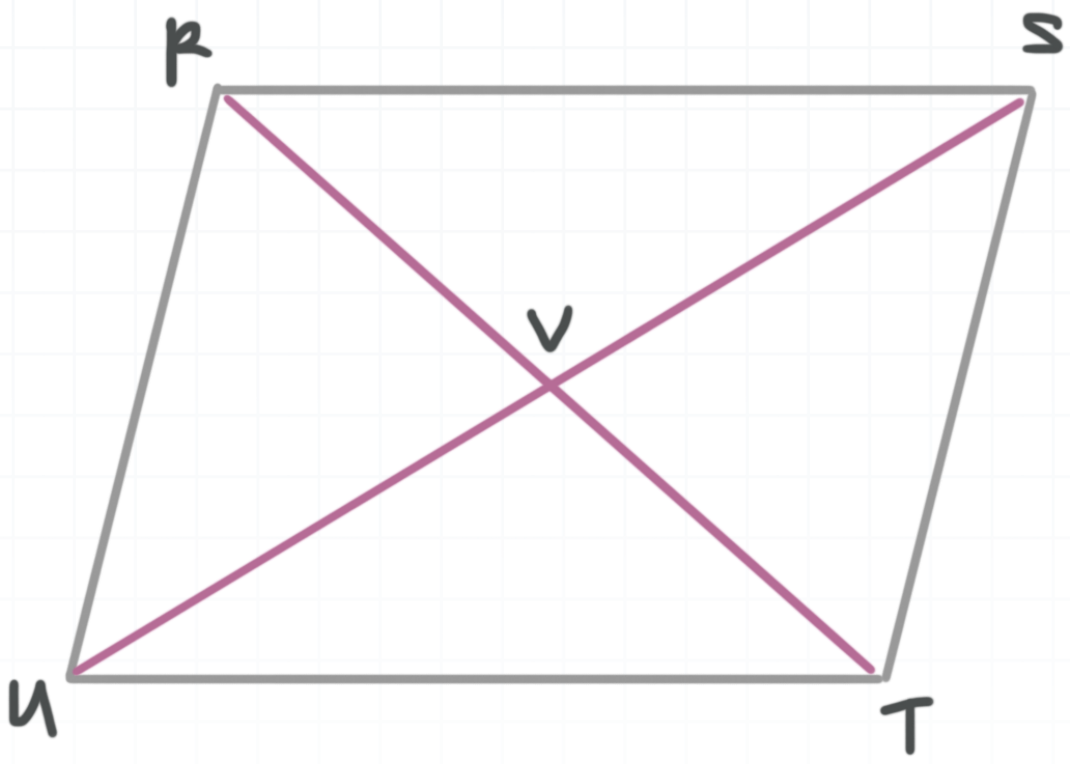


A	20.5	C	18.5	E	22
B	17	D	24		

3. **(5 pts)** A regular nonagon has all congruent sides and angles. What is the measure of each interior angle?

A	180°	C	20°	E	120°
B	140°	D	25°		

4. **(5 pts)** In parallelogram $RSTU$, $RT = 12$, $US = 5$, and $RU = 3.5$. What is the perimeter of ΔSTV?



A 14.5

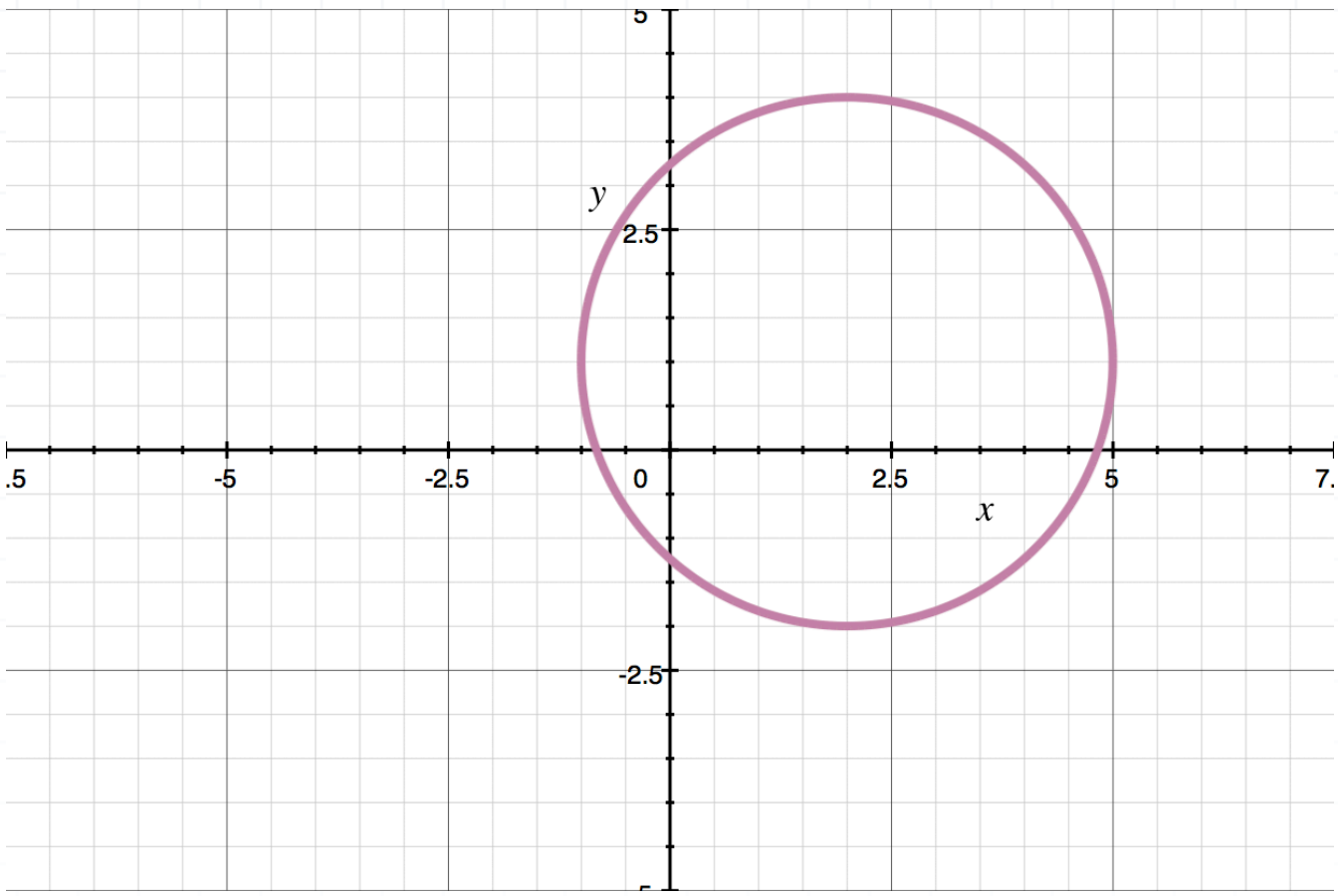
C 21

E 14

B 20.5

D 12

5. **(5 pts)** What is the equation of the given circle?



A $(x-2)^2+(y-1)^2=9$

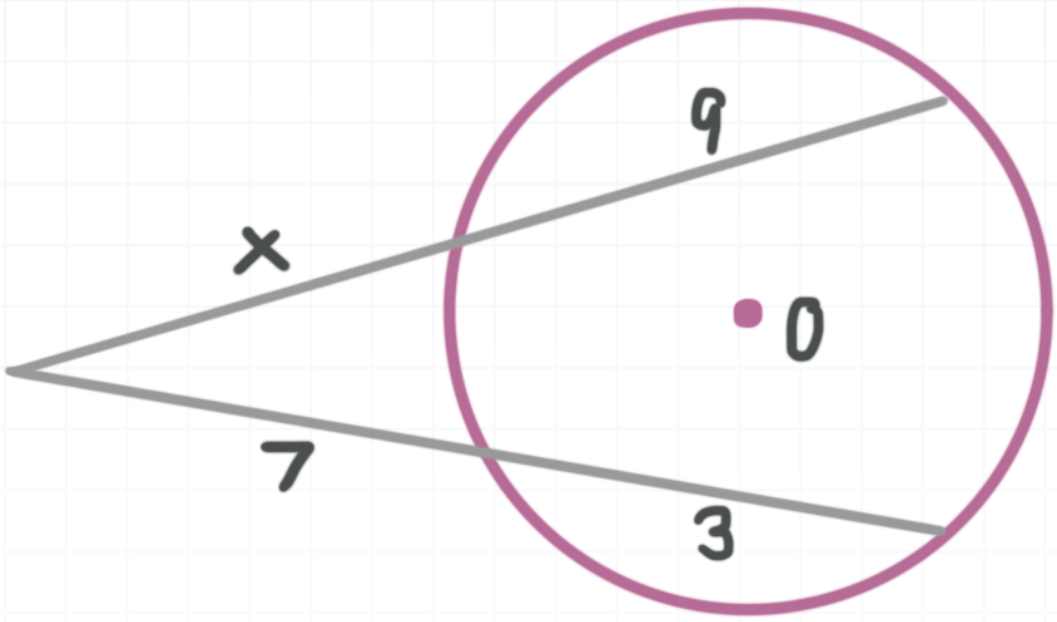
B $(x-2)^2+(y+1)^2=9$

C $(x+2)^2+(y+1)^2=9$

D $(x-1)^2+(y-2)^2=9$

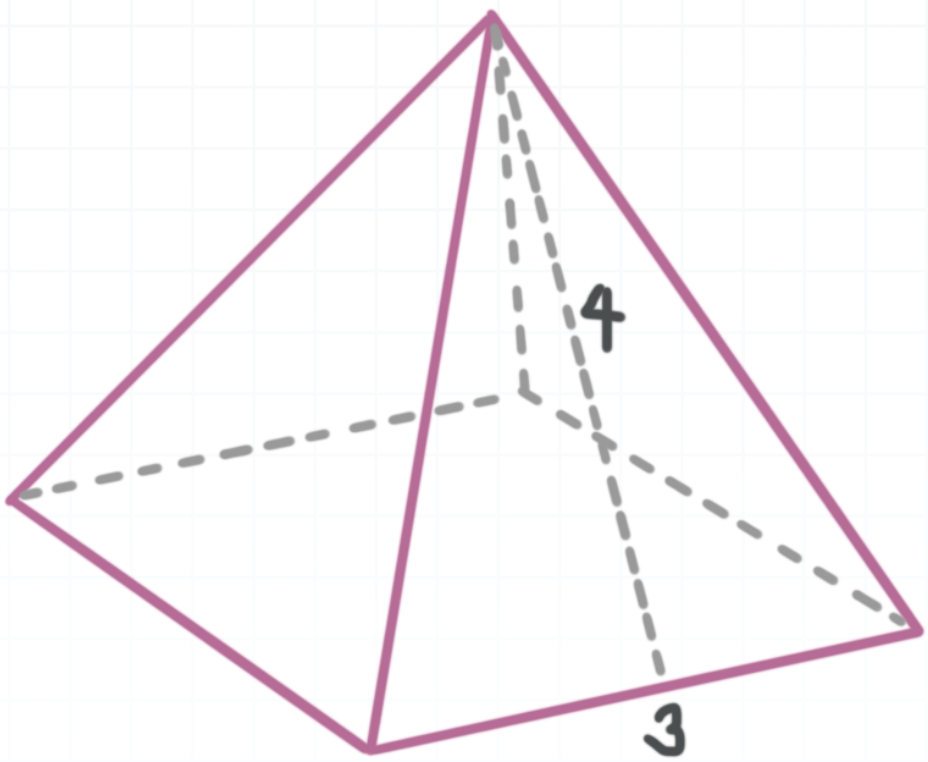
E $(x+1)^2+(y+2)^2=9$

6. **(5 pts)** Solve for the missing value. Figure may not be drawn to scale.



A	$x = 5$	C	$x = 9$	E	$x = 7$
B	$x = 14$	D	$x = 12$		

7. **(5 pts)** The base of a regular pyramid is a square with each side measuring 3 cm. The slant height of the pyramid is 4 cm. Find the surface area of the pyramid.



A	57 cm^2	C	33 cm^2	E	60 cm^2
B	36 cm^2	D	48 cm^2		

8. **(5 pts)** Which statement is the contrapositive of the following statement?

"If a figure is a square, then it has four congruent sides."

A If a figure is not a square, then it does not have four congruent sides.

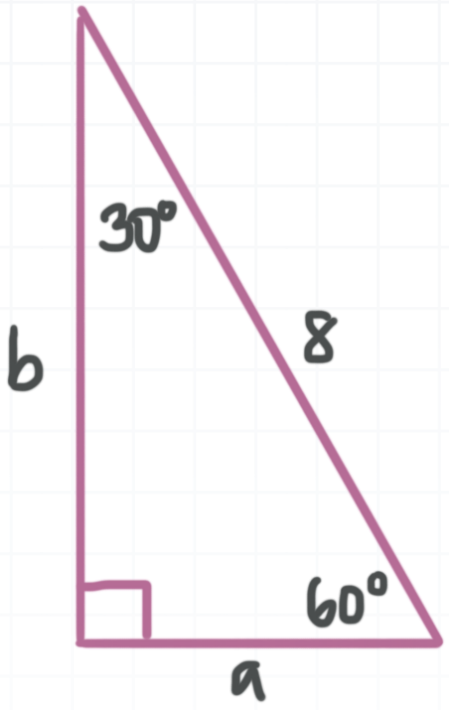
B If a figure does not have four congruent sides, then it is not a square.

C If a figure has four congruent sides, then it is a square.

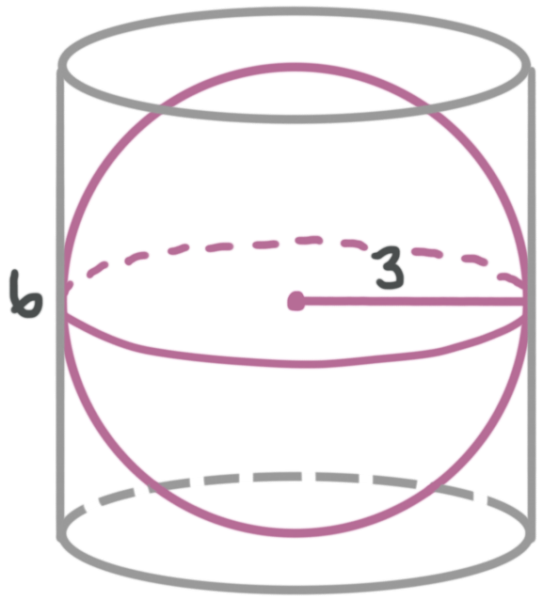
D If a figure is not a square, then it has four congruent sides.

E If a figure does not have four congruent sides, then it is a square.

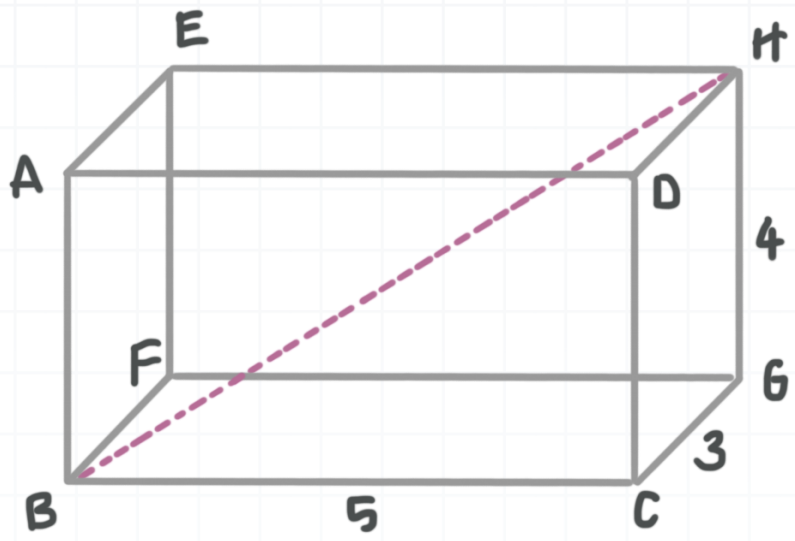
9. **(15 pts)** What are the lengths of the missing sides?



10. **(15 pts)** A ball whose radius is 3 cm is placed in a right circular cylinder. The radius of the cylinder is 3 cm and the height is 6 cm. What is the difference in the volumes of the cylinder and the sphere?



11. **(15 pts)** What is the length of BH in the rectangular solid shown?



12. **(15 pts)** If ΔABC undergoes the translation described by $T(x, y) = (x + 2, y - 3)$, what will be the the points of $\Delta A'B'C'$? Draw $\Delta A'B'C'$ on the coordinate plane.