



Stoneleigh-Burnham
Upper School
Mathematics Placement Test

Date: _____ Start time: _____ Entering Grade: _____ End time: _____

Name of Student: _____
PLEASE PRINT LAST FIRST MIDDLE NICKNAME

DIRECTIONS. Answer each of the following questions to the best of your ability in the space provided. Please attempt to answer every question and show your work.

1. Calculate the answer: $8 - 3 \times 4 \div 2 =$

2. Given $2n + 6 = 14$, what is the value of n ?

3. $3(x + y + 2) - 2(x - y + 3) =$

4. Write an algebraic equation for the sentence: "Five plus the product of three and a number k is equal to three less than the number k ".

5. Multiply these terms: $(x + 2)(5x + 7) =$

6. Simplify the expression: $2x^2y^2(4xy)^2 =$

7. Solve for y in terms of x : $8x + 2y = 4$

8. Solve this proportion for x : $\frac{4}{x+1} = \frac{3}{x}$

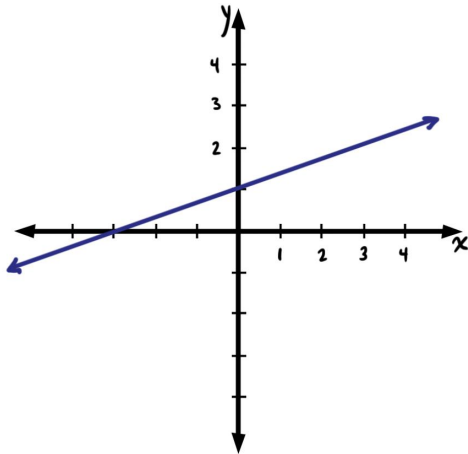
9. Factor this expression: $x^2 + 5x - 24 =$

Please return this completed test as soon as possible.

10. Simplify the expression: $\frac{p^2 + p - 6}{p^2 - 4}$

11. Find all the solutions of this equation: $m^2 - 7m + 12 = 0$

12. Write the equation for this straight line:

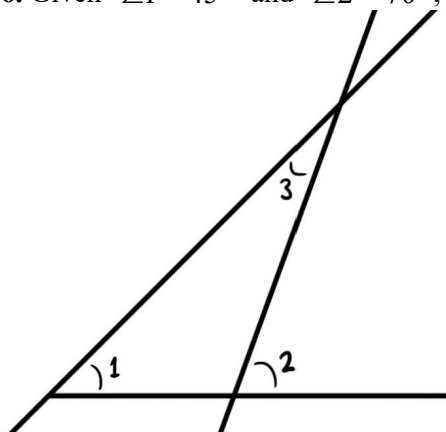


13. Write the equation of the line through the points (0, 2) and (2, 4).

14. Solve this inequality for x: $-6x + 3 < 4x - 7$

15. The width of a certain rectangle is four feet less than the length. The perimeter is 28 feet. What is the width?

16. Given $\angle 1 = 45^\circ$ and $\angle 2 = 70^\circ$, how big is $\angle 3$?



17. If $\triangle ABC \cong \triangle XYZ$, label each of the following as true or false:

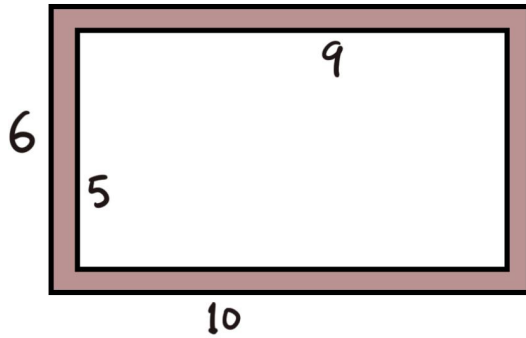
$$\overline{AC} \cong \overline{XZ}$$

$$\overline{BC} \cong \overline{XY}$$

$$\angle B \cong \angle Z$$

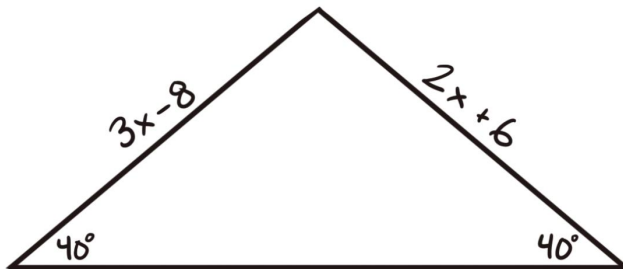
$$\angle C \cong \angle Z$$

18. What is the shaded area between the rectangles?



19. What is the area of a circle with a circumference of 16π ?

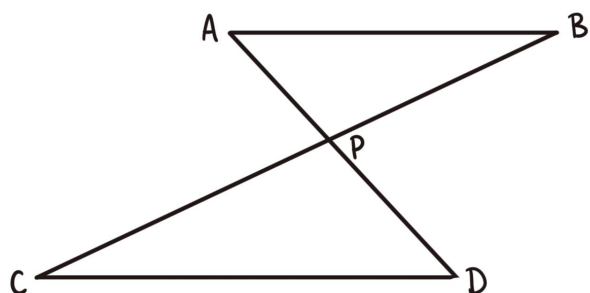
20. Calculate the value of x for this isosceles triangle.



21. Given $\triangle ABP \cong \triangle DCP$, name two transversals and two parallel lines:

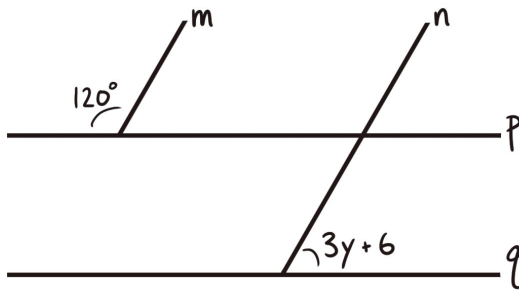
transversals:

parallel lines:



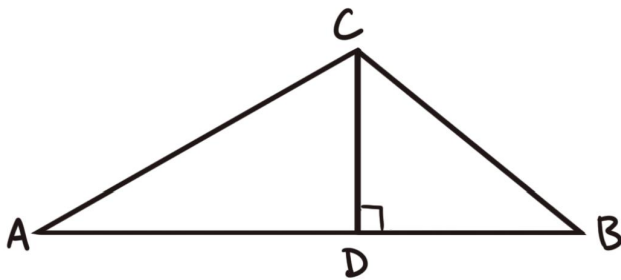
22. Given $\triangle RST$, $RS = ST$, $\angle R = 36^\circ$, and SQ is an altitude, find $\angle TSQ$.

23. Given $m \parallel n$ and $p \parallel q$, find the value of y .

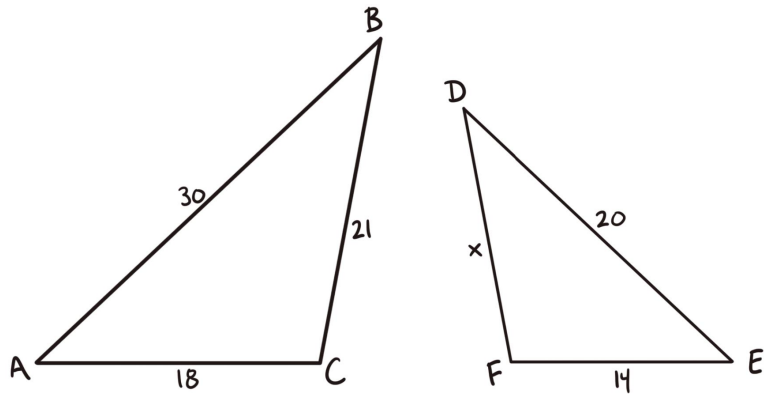


24. How big is each interior angle of a regular hexagon?

25. Given $AB = 12$ and $CD = 4$, what is the area of $\triangle ABC$?

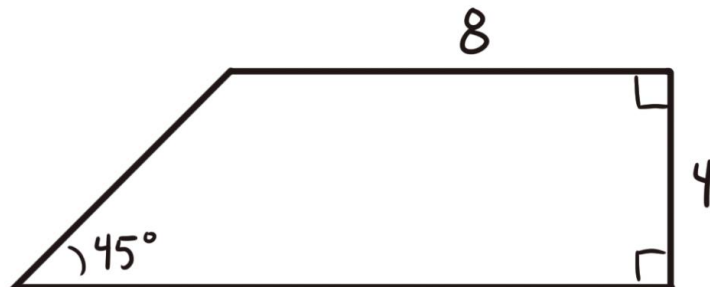


26. Given $\triangle ABC \sim \triangle DEF$, find the value of x .



27. If two legs of a right triangle are 5 and 12, what is the hypotenuse?

28. What is the perimeter of this trapezoid?



29. Calculate the area of a square if the length of the diagonal is 8.

30. What is the length of side n ?

