

3.6 Quadratic Inequalities CYU

Use when you get it right all by yourself

S Use when you did it all by yourself, but made a silly mistake

H Use when you could do it alone with a little help from teacher or peer

G Use when you completed the problem in a group

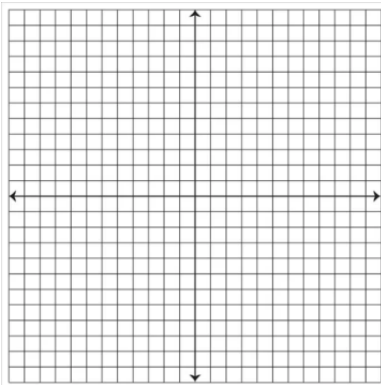
X Use when a question was attempted but wrong (get help)

N Use when a question was not even attempted

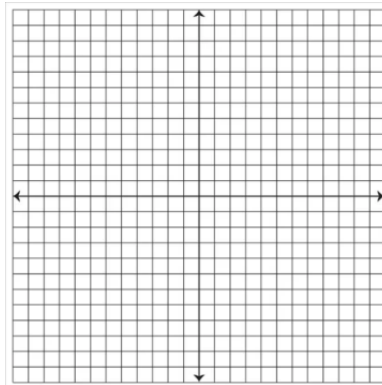
CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Graphing quadratic inequalities	1	2, 4, 5	3
Modeling with Mathematics Real World Problem		4, 5	
Graphing a system of quadratic inequalities		6, 7, 8	
Solving quadratic inequalities with one variable	9	10	11

Graph the inequality.

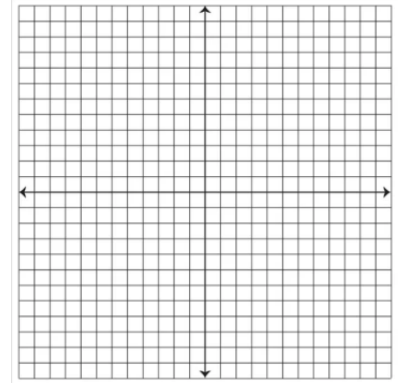
1. $y \leq x^2 + 5x$



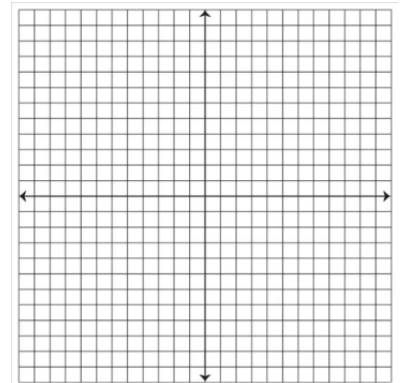
2. $y \geq -2x^2 + 9x - 4$



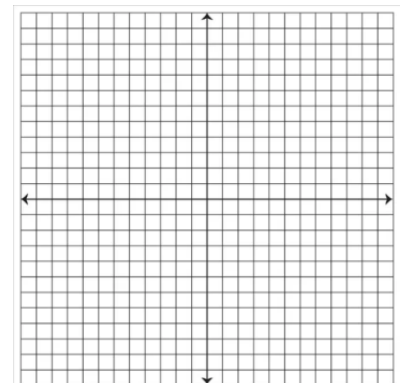
3. $y \leq \left(x - \frac{1}{2}\right)^2 + \frac{5}{2}$



4. **MODELING WITH MATHEMATICS** A hardwood shelf in a wooden bookcase can safely support a weight W (in pounds) provided $W \leq 115x^2$, where x is the thickness (in inches) of the shelf. Graph the inequality and interpret the solution in terms of the scenario.

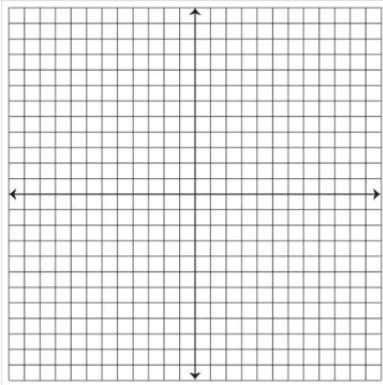


5. **MODELING WITH MATHEMATICS** A wire rope can safely support a weight W (in pounds) provided $W \leq 8000d^2$, where d is the diameter (in inches) of the rope. Graph the inequality and interpret the solution in terms of the scenario.

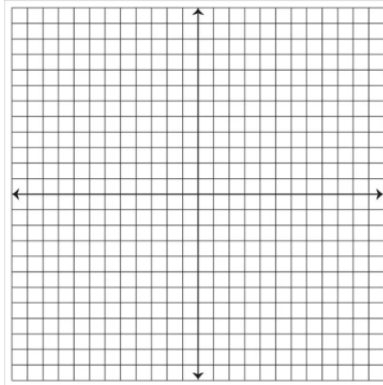


Graph the system of quadratic inequalities.

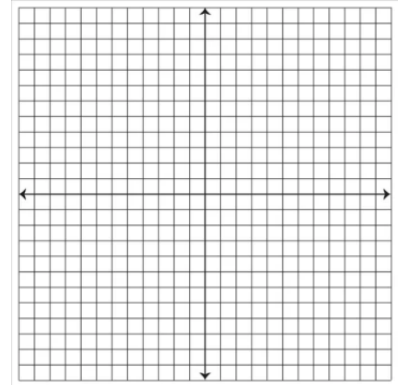
6. $y \geq 2x^2$
 $y < -x^2 + 1$



7. $y \geq x^2 - 4$
 $y \leq -2x^2 + 7x + 4$



8. $y \geq x^2 - 3x - 6$
 $y \geq x^2 + 7x + 6$



Solve the inequality algebraically.

9. $x^2 - 11x \geq -28$

10. $4x^2 + 8x - 21 \geq 0$

11. $-\frac{1}{2}x^2 + 4x \leq 1$

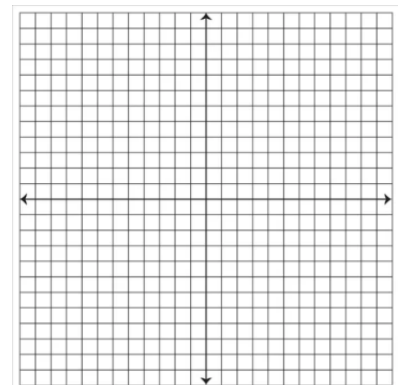
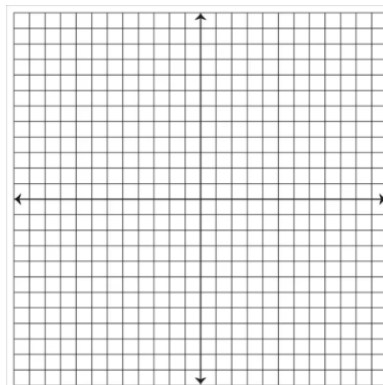
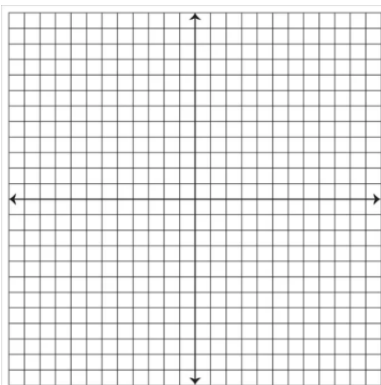


Solve the inequality by graphing.

12. $x^2 - 3x + 1 < 0$

13. $3x^2 + 5x - 3 < 1$

14. $\frac{3}{4}x^2 + 4x \geq 3$



CYU Reflection: How far can you go: basic, intermediate, or advanced?

Rate your mastery level!

How confident are you with the skills this CYU covered? Circle the

