Fill in the blanks.

1. *f* has a relative maximum where the graph of *f* '

1. goes from above to below the axis

2. *f* is decreasing where the graph of *f* '

2. below the axis

3. *f* has relative extrema where the graph of *f* '

3. crosses the axis

4. *f* has inflection points where the graph of *f* '

4. has relative extrema

5. *f* is concave up where the graph of *f* '

5. increasing

6. *f* has a critical number where the graph of *f* '

6. touches or crosses the axis

7. *f* is increasing where the graph of *f* '

7. above the axis

8. *f* is concave down where the graph of *f* '

8. decreasing

9. *f* has a relative minimum where the graph of *f* '

9. goes from below to above the axis

10. If *f* ' is increasing, the graph of *f* is

10. concave up

11. If *f* ' is positive, the graph of *f* is

11. increasing

12. If *f* ' is below the x-axis, the graph of *f* is

12. decreasing

13. If *f* is concave down, the graph of *f* " will be

13. below the axis

14. If *f* ' is decreasing, the graph of *f* will be

14. concave down

15. If *f* has an inflection point at $x = a$, the graph of *f* '

15. relative extrema

16. If *f* is concave up on (a,b), the graph of *f* " will be

16. above the axis

17. If *f* is increasing on (a,b), the graph of *f* ' will be

17. above the axis

18. If *f* has a critical number at $x = a$, the graph of *f* ' will

18. touch or cross the axis

19. Where the graph of *f* ' has relative extrema, *f* will have

19. inflection points

20. If the graph of *f* ' is decreasing, the graph of *f* " will be

20. below the axis