Beginning Algebra
Study Guide 20
Due Date: $\qquad$

Name: $\qquad$

## Class:

Score:

No Work $\Leftrightarrow$ No Points
Use Pencil Only $\Leftrightarrow$ Be Neat \& Organized

1. (4 points) The sum of a number and twice its reciprocal is $\frac{11}{3}$. Find all such numbers.
2. 
3. (4 points) The difference of the reciprocal of two consecutive odd integers is $\frac{2}{15}$. Find all such numbers.
4. $\qquad$
5. (4 points) John can do a certain job in 3 hours alone while Jack can do the same job in 2 hours alone. How long does it take them to do this job if they work together?
6. $\qquad$
7. (4 points) Lisa and Mary, while working together, can do a certain job in 4 hours. Lisa can do the same job alone twice as fast as Mary. How long does it take each one of them to do this job if they work alone?
8. 
9. (4 points) Pipe A can fill up an empty pool in 6 hours while pipe $B$ can empty a full pool in 10 hours. Suppose that the pool is empty and both pipes are working, how long does it take to fill up the pool?
10. $\qquad$
11. (4 points) Nasreen drove 210 miles in the same amount of time that Luna drove 150 miles. Find their speed if Nasreen was driving 20 miles per hour faster than Luna.
12. $\qquad$
13. (4 points) Use similar triangles below to find $x$.

14. $\qquad$
15. (4 points) The difference of an integer and three times its reciprocal is $\frac{13}{4}$. Find all such integers.
16. 
17. (4 points) The sum of the reciprocal of two consecutive even integers is $\frac{5}{12}$. Find all such integerss.
18. 
19. (5 points) Gabriel can do a certain job in 9 hours longer than Eddie if they work alone. Together, they can do the same job in 6 hours. How long does it take each one of them to do this job if they work alone?
20. $\qquad$
21. (5 points) Mona drove 90 miles on the mountain road and then drove 180 miles on the freeway in the total of 5 hours. Find her speed on each part if she was driving 15 miles per hour slower on the mountain road than the freeweey.
22. 
23. (4 points) Use similar triangles below to find $x$.

24. 
