WS 1 – REVIEW INTERCEPTS, LINEAR EQUATIONS, POLY EQUATIONS, SYSTEMS, COMPOSITE FUNCTIONS
Calculus AB

SHOW WORK IN YOUR NOTEBOOK. Get one with all graphing paper. You'll love it!

Find the slope.

1. $(2,3),\ (-2,-5)$
2. $\left(\frac{7}{8},\frac{3}{4}\right),\ \left(\frac{5}{4},-\frac{1}{4}\right)$
3. $(-4,3),(-4,-1)$

Find the equation of the line that

4. passes thru the points (2,-3) and (-4, -6) in standard form.
5. passes thru the points (-1,3) and (5, 7) in standard form.
6. parallel to $2x-3y=8$ and thru (-2,-2) in point slope form.
7. perpendicular to $3x-5y=8$ and thru (-1,-4) in standard form.

Solve by factoring.

8. $6x^2+x-2=0$
9. $15x^2+1=8x$
10. $6x^2-3=0$
11. $12x^3-13x^2+3x=0$

Use the functions $f(x)=2x-3$ and $g(x)=-x^2-2$ to find each.

12. $g(f(-2))$
13. $g(f(a))$
14. $f(g(x))$
15. $\dfrac{f(x+h)-f(x)}{h}$
16. $\dfrac{g(x+h)-g(x)}{h}$

Solve each system.

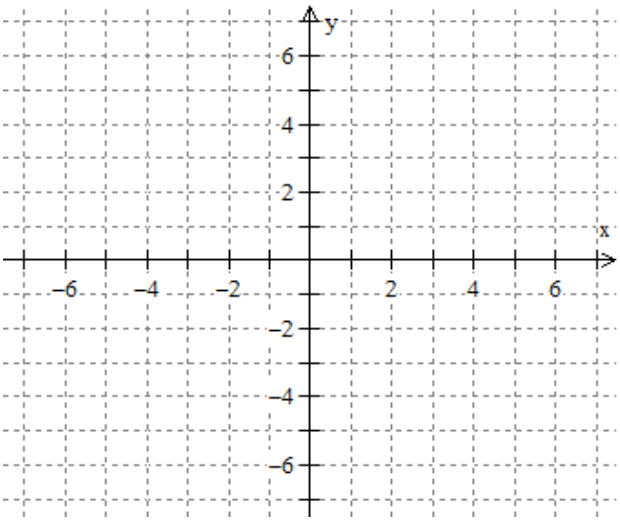
17. $\begin{cases}2x-3y=-2\\3x+4y=1\end{cases}$
18. $\begin{cases}3x-4y=1\\2x+6y=3\end{cases}$

Name the x and y intercepts of each.

19. $3x-4y=4$
20. $y=\frac{2}{3}x-6$

Graph each line on the grid provided.

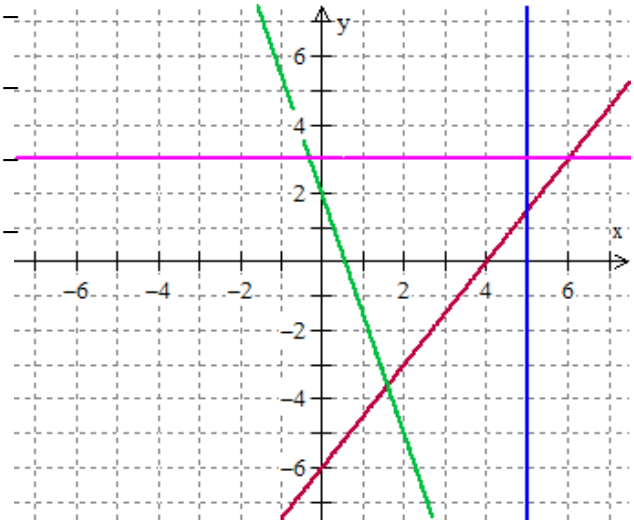
21. $3x-2y=12$
22. $y=3$
23. $x=5$
24. $y=-\frac{7}{2}x+2$



25. A small business purchases a piece of equipment for $875. After 5 years the equipment will be outdated and have no value.
    a. Write a linear equation giving the value y of the equipment in terms of the time x.
    b. Find the value of the equipment when x = 2.
    c. Estimate (to 2 decimal places) the time when the value of the equipment is $200.

Answers

1) 2
2) -8/3
3) undefined
4) $x-2y=8$
5) $2x-3y=-11$
6) $y+2=\frac{2}{3}(x+2)$
7) $5x+3y=-17$
8) $\frac{-2}{3},\frac{1}{2}$
9) $\frac{1}{3},\frac{1}{5}$
10) $\pm\frac{\sqrt{2}}{2}$
11) $0,\frac{1}{3},\frac{3}{4}$
12) -51
13) $-4a^2+12a-11$
14) $-2x^2-7$
15) 2
16) $-2x-h$
17) $\left(-\frac{5}{17},\frac{8}{17}\right)$
18) $\left(\frac{9}{13},\frac{7}{26}\right)$
19) $\left(\frac{4}{3},0\right),(0,-1)$
20) $(0,-6),(9,0)$
21) –
22) –
23) –
24) –



25) –
    a. $y=-175(x-5)$
    b. $525
    c. ≈ 3.857 years