Simplify each radical (no decimals) <https://youtu.be/G3ucF7dMXY4?si=nxZ8BGgo5LesTRCf>

1. $\sqrt{40}$ 2. $\sqrt{\frac{16}{49}}$ 3. $\sqrt[3]{192}$ 4. $\sqrt[3]{128}$

Evaluate each expression

<https://youtu.be/WJqw-cxvKgo?si=KmZtXGbCpXlyYQWh>

5. $2^{3}\left(9-2\right)+\frac{12}{4}-\left(-5\right)$ 6. $\frac{5^{3}-42÷6}{\sqrt[3]{8}}$ 7. $\frac{\sqrt{bc}}{\left(c-a\right)^{2}+b} when a=1, b=-20, c=-5$

Solve each equation:

<https://youtu.be/p9KxtRgfVvs?si=9opMEzi8KMWnoUBU>

8. $\frac{3}{4}x+17=23$ 9. $9y-4\left(y+1\right)=31$ 10. $\frac{7}{x-8}=\frac{3}{x}$

11. $\frac{3x-4}{20}=\frac{5x}{17}$

Write the equation of a line, in slope-intercept form) that passes through the following points:

<https://youtu.be/4vXqMsvPSv4?si=YLlPMl17CcPtFnz1>

12. (-12, -1) and (-3, -4) 13. (-11, 7) and (-11, -2)

For each equation, identify the slope and y-intercept:

<https://youtu.be/RZAMCkaw8Nw?si=ktAGplwhXolBczUZ>

14. $3x-4y=24$ 15. $x=1$

Graph a line on a coordinate plane represented by the following equations:

<https://youtu.be/WLTbHVcZnAA?si=x2M6HKYqb7JP037e>

16. $x-4y=-3$ 17. $y=4x$

Write the equation of a line in slope-intercept form using the given point and slope:

<https://youtu.be/H9ym0qevDRE?si=y0IUeVfJ_sM_4nb2>

18. (4, -2); slope = $\frac{2}{3}$ 19. (1, 4); slope = -1

Simplify each exponential expression:

<https://youtu.be/LkhPRz7Hocg?si=r7LU3feabQY22ba3>

<https://youtu.be/6NmKjMvDHLA?si=nwqXZw3vWLWxAjzg>

20. $\left(-2a^{6}bc^{3}\right)^{2}\left(-5ab^{2}\right)$ 21. $\left(2v\right)^{-2}\left(6v^{-7}\right)^{3}$ 22. $\left(5-8k\right)-\left(8k-13+2k^{2}\right)$

23. (2k-5)(3k-4) 24. (2a+5b)(2a-5b) 25. (2c+1)($c^{2}-3c-11)$

Factor each polynomial:

<https://youtu.be/mXvt9OumKH8?si=t4eg8V5YWIdgX9Rf>

26. $21c-12$ 27. $16k^{2}-1$ 28. $p^{2}-13p+30$ 29. $3h^{2}-6h+3$

30. $4v^{2}-16v+7 $ 31. $8v-98v^{3}$

Solve the quadratic. Simplify all irrational solutions (no decimals)

<https://youtu.be/puWdJ-s9y_Y?si=1UVtLrTotFPzbNtg>

32. $x^{2}+8x=0$ 33. $9-x^{2}=17$ 34. $-x^{2}-14x=37$

Solve by completing the square (I know there are other ways to solve these, but this particular form is essential in this class).

<https://youtu.be/prx_Bf2hakw?si=yIKh8pO08IhPX-IL>

35. $x^{2}-8x+15=0$ 36. $4x^{2}-4x+5=0$

Rationalizing the denominator:

<https://youtu.be/KlZPKMDwg6M?si=x66P9yQT06bhe2hW>

37. $\frac{11}{\sqrt{5}}$ 38. $\frac{3}{2\sqrt{7}}$ 39. $\frac{9\sqrt{30}}{18\sqrt{45}}$ 40. $\frac{3}{\sqrt{21}}$