1. $[K] = \$/ft^2 = price$

C

2. $3r = 18 \Rightarrow r = 6 \Rightarrow 6r + 3 = 39$

D

3. $a^{2/3} = \sqrt[3]{a^2}$

D

4. $n_1 = 2n_2$
$n_1 = 30$
$\Rightarrow$ B

5. $\frac{5}{x} = \frac{15}{x+20} \Rightarrow \frac{x}{5} = \frac{x+20}{15}$

$\Rightarrow 3x = x + 20 \Rightarrow x = 10$

C

6. $-(2x - 3y = -14)$
$3x - 2y = -6$

$x + y = 8$

Dem, $5x = 10, x = 2, y = 6, x - y = 2 - 6 = -4$

C

7. $f(4)=0 \Rightarrow f(x)=(x-4)\cdots$

C

8. $d=kx+4$

$(0,4)$ is on line

$\text{slope}=\frac{d-4}{c-0}$

A

9. $kx-3y=4$

$4x-5y=7$ — no soln if inconsistent

$\frac{5k}{3}x-5y=4\cdot\frac{5}{3}$

$4x-5y=7$

$\frac{5k}{3}=4 \Rightarrow k=\frac{12}{5}$

A

10.

$25=(x-11)^2$

$\pm 5=x-11$

$x=\begin{cases}11+5=16\\11-5=6\end{cases}$

A

11. $x=t$

$w=z$

$y=y$

$x+y=t+w$

$\Rightarrow x=w \Rightarrow t=z$

I ✓ II ✓

B

x value

12. vertex $= -\frac{b}{2a}$

$y = a(x^2+2x-8)$

$-\frac{b}{2a} = -\frac{2}{2} = -1$ **A**

y-val: $a(1-2-8) = -9a$

13. $\frac{24x^2+25x-47}{ax-2} = -8x-3-\frac{53}{ax-2}$

$\Rightarrow 24x^2+25x-47 = (ax-2)(-8x-3)-53$

$= -8ax^2-3ax+16x+6-53$

$= -8ax^2+(16-3a)x-47$

$-8a = 24,\ 16-3a = 25,\ a = -3$

B

14. $3x^2+12x+6=0$

$\Rightarrow x^2+4x+2=0$ **A**

$x = \frac{-4\pm\sqrt{16-8}}{2} = -2\pm\sqrt{2}$

15. I ✓ II ✓

D

$8 \cdot (-1) = -42$ ✓

16. $x^3(x^2-5) = -4x$

$x \neq 0 \Rightarrow x^2(x^2-5)+4=0$

$x^4-5x^2+4=0$

$(x^2-4)(x^2-1)=0$

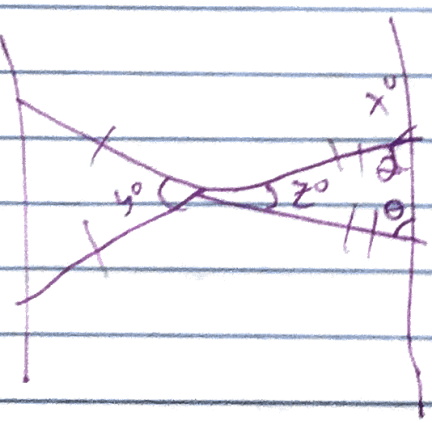
$\boxed{x=2}$

17. $\frac{2}{a}x - \frac{4}{a}x = \frac{1}{4} + \frac{5}{12}$

$\frac{1}{3}x = \frac{3}{12} + \frac{5}{12} = \frac{8}{12}$

$x = \frac{24}{12} \Rightarrow \boxed{x=2}$

18.



$180 - z = 2y$

$y = 75$

$\Rightarrow 180 - z = 150$

$z = 30$

$30 + 2\theta = 180 \Rightarrow \theta = 75°$

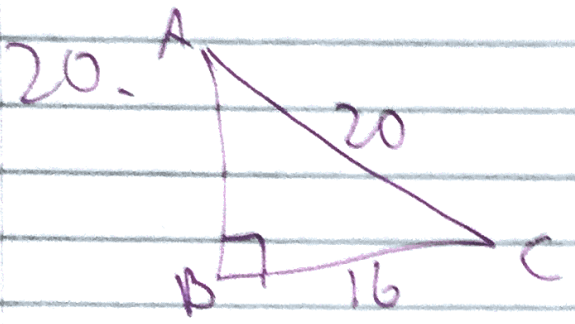
$x + \theta = 180° \rightarrow \boxed{x = 105°}$

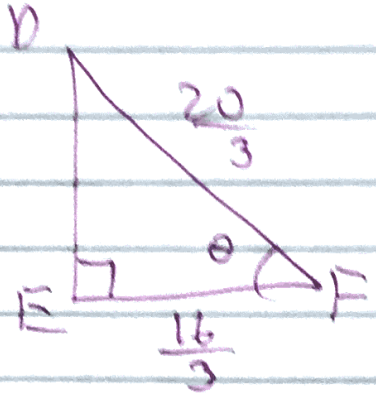
19. $h = f + 90$

$2h + 3f = 5f + 100 + 700$

$\boxed{h = 370}$

$5f = 1600 \Rightarrow f = 320$

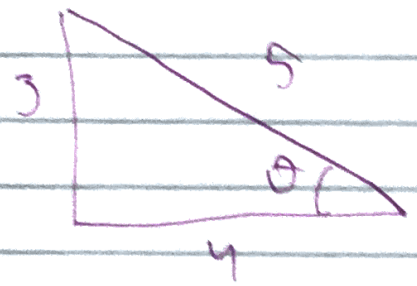
20. 



$$\sin(\theta) = \frac{\sqrt{\frac{20^2}{3^2} - \frac{16^2}{3^2}}}{20/3}$$

$$= \sqrt{\quad}$$

Duh, it's 3-4-5



$$\sin(\theta) = \frac{3}{5}$$