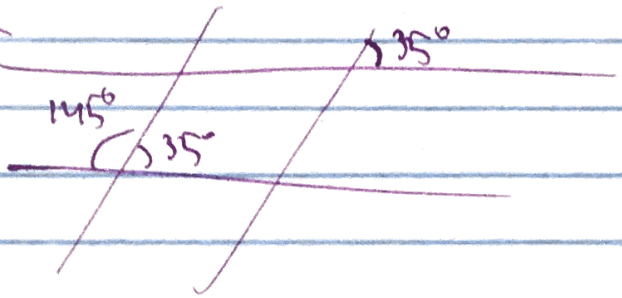
1. B, between 40 - 60

2. $y = kx$, $24 = 6k \Rightarrow k = 4$

20, C

3.



D

4. $16 + 4x = 24$

$4x = 8$

$8x = 16$

C

5. D

6. $1\ dg = 10\ g$

$1000\ mg = 1\ g$

$$2\ dg \cdot \frac{10\ g}{dg} \cdot \frac{1000\ mg}{g} = 20{,}000\ mg$$

D

7. about 30 units total $\Rightarrow$ C

8. $|n-1|+1 \geq 1$, D

9. $t = \frac{9-1052}{1.08}$ A

10. $1000 = 1052 + 1.08t$

$\Rightarrow 1.08t = -52$

$-48.1 \Rightarrow$ B

11. $3x - 5 \geq 4x - 3$

$-2 \geq x \Rightarrow$ A

12. 12 apples

$\frac{2 \cdot 3 + 5 \cdot 4 + 6 \cdot 1 + 7 \cdot 2 + 9 \cdot 3}{12} \approx 6$ C

13. 310 respondents $\rightarrow$ 19% is 58.9 ≈ 59

C

14. C

15. (intercept → $h=0$ → A)

16. intercept 5, slope

$m = \frac{8-5}{1} = 3$ ⟹ C

17. $x=-3$, B

18. $x+b < y2-x+a$

$\overset{0,0}{\Longrightarrow}, b < a$ A

19. $6.5s + 2d = 836.50$

~~$836.5 = 2(209-s) + 6.5s$~~

$836.5 = 418 + 4.5s$

B

20. $p = (0.8^{q}) \cdot 1.08$ → $q = \frac{p}{(0.8)(1.08)}$ D

21. ~~$\frac{28+57}{11+68}$~~ $\frac{11+68}{11+68+28+57} = \frac{79}{164}$ C

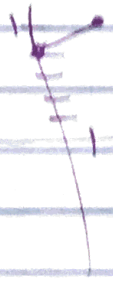
22. $\frac{468,106 - 356,706}{2} = 64,694$

unit: 7,000/hr → [B]

23.

	2007/2010
Ed	1.39
HT	1.2
HR	~~33/20~~ 1.46

[B]

24. 

$(\frac{4}{3})^2 + y^2 = r^2$

$r^2 = \frac{25}{9}$, center $(0,4)$

$(y-4)^2 + (x-0)^2 = r^2$

[A]

25. $-4.9t^2 + 25t = 0$

$t(-4.9t + 25) = 0 \rightarrow t \cong 5s$

[D]

26. $A = 12B > 144$

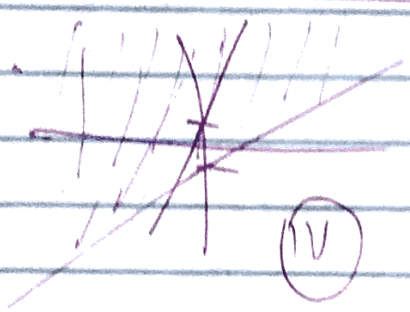
$B > 120$ → [B]

27. 

$\frac{5}{100} = \frac{107+147+146+135+149}{x}$

$x \approx 13680$

C

28. 

C

29. D

30. roots $-3, 5$

b

31. ~~[illegible]~~ At most 6, at least 4

~~[illegible]~~

5

32 $14x + 4500 = 6000$

$\max x = 107$

33 $\frac{n_{2008}}{n_{2011}} = \frac{100}{160} \Rightarrow \frac{5}{8}$

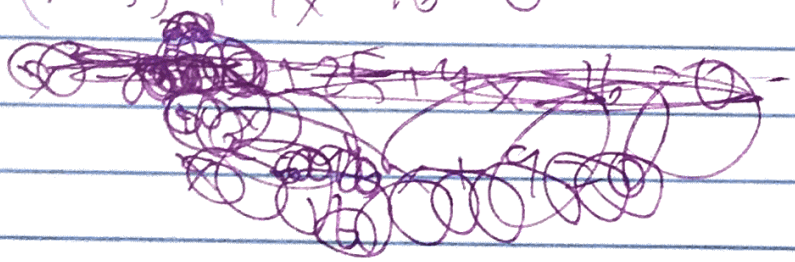
34. $48 + 48 = \boxed{96}$

35. $72\pi = 8\pi r^2$

$r = 3$

$\boxed{d = 6}$

36. $(x-5)^2 + 4x - 16 = 0$



$x^2 - 10x + 25 + 4x - 16 = 0$

$x^2 - 6x + 9 = 0$

$\boxed{x = 3}$

37. $\$100 \cdot (1 + 0.02)^t$

$\boxed{x = 1.02}$

38. $\$100(1.05)^{10} - \$100(1.02)^{10}$

$\boxed{\$6.11}$