Honors Math 3 – Cumulative Test Review

① I. $y = -\frac{3}{5}x - 5$

II. $y = -\frac{1}{5} - \frac{3}{5}x$

III. $3y = 2x - 1$

$y = \frac{2}{3}x - \frac{1}{3}$

I & II

② $y = -x - 2$

$4y = -4x + 16$

$y = -x + 4$

No, slopes are not opp recl. (b)

③ $7x + 3y = 18$

$3y = -7x + 18$

$y = -\frac{7}{3}x + 6$

$y = \frac{3}{7}x + b$

$8 = \frac{3}{7}(6) + b$

$b = \frac{38}{7}$

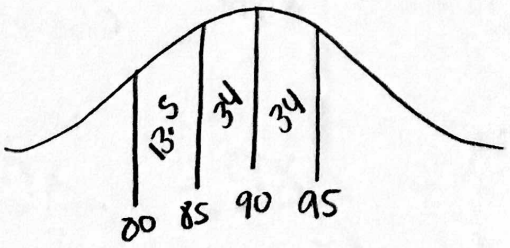
$y = \frac{3}{7}x + \frac{38}{7}$ C

④ C statistic b/c "sample"

⑤ C stratified

⑥ a biased

⑦



$13.5 + 34 + 34 = 81.5\%$ d

⑧ $\frac{1}{\sqrt{600}} = .04 \rightarrow \frac{1}{\sqrt{2400}} = .02$

$600 \times 4 = 2400$

⑨ graph

⑩ $2w^2 - 7w - 14$

⑪ $3p^4(4p^4 + 7p^3 + 4p + 1)$

$12p^8 + 21p^7 + 12p^5 + 3p^4$

⑫ $7a^3(5a^6 - 2b^3)$

$35a^9 - 14a^3b^3$

(13) $x^2+3x-5=0$

$x^2+3x+\frac{9}{4} = 5+\frac{9}{4}$

$(x+\frac{3}{2})^2 = \frac{29}{4}$

$x+\frac{3}{2} = \pm\sqrt{\frac{29}{4}}$

$x+\frac{3}{2} = \pm\frac{\sqrt{29}}{2}$

$\boxed{x = -\frac{3}{2} \pm \frac{\sqrt{29}}{2}}$

(14) $2a^2-46a+252=0$

$a = \frac{46 \pm \sqrt{(-46)^2-4(2)(252)}}{2(2)} = \frac{46\pm\sqrt{100}}{4}$

$= \frac{46\pm 10}{4}$ → $\boxed{a=14}$; → $\boxed{a=9}$

(15) $x^2+0x-1=0$

$x^2-1=0$

$(x+1)(x-1)=0$

$\boxed{x=-1}$ $\boxed{x=1}$

(16) $x^2-18=0$

$x = \frac{0\pm\sqrt{0^2-4(1)(-18)}}{2(1)} = \frac{\pm\sqrt{72}}{2}$

$= \frac{\pm\sqrt{36\cdot 2}}{2} = \pm\frac{6\sqrt{2}}{2} = \boxed{\pm 3\sqrt{2}}$

(17) $\frac{4x-8}{4x+20} = \frac{4(x-2)}{4(x+5)} = \boxed{\frac{x-2}{x+5}}$ Note: $x \neq -5$

(18) $\frac{-9x}{x-x^2} = \frac{-9x}{x(1-x)} = \boxed{\frac{-9}{1-x}}$ Note: $x \neq 1$

(19) $\frac{x^2-16}{6x} \cdot \frac{7x}{x+4} = \frac{(x+4)(x-4)}{6x} \cdot \frac{7x}{x+4} = \boxed{\frac{7(x-4)}{6}}$

(20) $\frac{y^2-9}{-2y} \cdot \frac{-5y}{y+3} = \frac{(y+3)(y-3)}{-2y} \cdot \frac{-5y}{y+3} = \frac{-5(y-3)}{-2} = \boxed{\frac{5(y-3)}{2}}$

(21) $\frac{-10m^9 - 4m^8 - 12m^6}{2m^4} = \boxed{-5m^5 - 2m^4 - 6m^2}$

(22) $6x^2 - 13x + 2 \div 3x - 2$

$\frac{2}{3}$ | 6 −13 2
↓ 4 −6 →
6 −9 −4

$\frac{6x^2 - 9x - 4}{3} = \boxed{2x - 3 - \frac{4/3}{3x-2}}$

(23) $(-6i)(-6i) = 36i^2 = \boxed{-36}$

(24) $(2+5i)(-1+5i) = -2 + 10i - 5i + 25i^2 = -2 + 5i + 25(-1)$

$\boxed{-27 + 5i}$

(25) $\sqrt{x+10} - 7 = -5$

$\sqrt{x+10} = 2$

$(\sqrt{x+10})^2 = (2)^2$

$x + 10 = 4$

$\boxed{x = -6}$

(26) $4(3-x)^{\frac{4}{3}} - 5 = 59$

$4(3-x)^{\frac{4}{3}} = 64$

$(3-x)^{\frac{4}{3}} = 16$

$((3-x)^{\frac{4}{3}})^{\frac{3}{4}} = (16)^{\frac{3}{4}}$

$3 - x = 8$

$-x = 5$

$\boxed{x = -5}$

(27) $4x^2 - x + 3 = 0$

$x = \frac{1 \pm \sqrt{(-1)^2 - 4(4)(3)}}{2(4)} = \boxed{\frac{1 \pm \sqrt{-47}}{8}}$

(28) $-2x^2 + x + 8 = 0$

$x = \frac{-1 \pm \sqrt{(1)^2 - 4(-2)(8)}}{2(-2)}$

$= \frac{-1 \pm \sqrt{65}}{-4} = \boxed{\frac{1 \pm \sqrt{65}}{4}}$

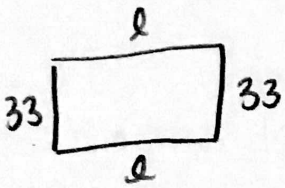
(29) -6 | 1 3 −11 4

↓	−6	18	−42
1	−3	7	−38

$x^2 - 3x + 7 - \frac{38}{x+6}$

(30) – (37) omit

(38)



length

$66 + 2l \geq 776$

$2l \geq 710$

$l \geq 355$

Area

$355 \times 33 = 11715$

Area ≥ 11715

(39) $-g^3 + 3g^2 + 4g - 2$

(40) Cubic trinomial

(41) $10v^3 + 2v^2 + 10$

(42) omit

(43) $\sqrt{-4} + 10$

$2i + 10$

(44) $y = (x+3)^2 (x-5)^6$

$x = -3$ (mult 2)

$x = 5$ (mult 6)

(45) $(-2x+6)^{\frac{1}{5}} = (-8+10x)^{\frac{1}{5}}$

$((-2x+6)^{\frac{1}{5}})^5 = ((-8+10x)^{\frac{1}{5}})^5$

$-2x + 6 = -8 + 10x$

$14 = 12x$

$\frac{7}{6} = x$

(46) omit

(47) Recursive:

$a_1 = 8$

$a_n = a_{n-1} + 2$

(48) Explicit: $a_n = a_1 + d(n-1)$

$a_n = \frac{1}{2} - \frac{1}{14}(n-1)$

$= \frac{1}{2} - \frac{1}{14}n + \frac{1}{14}$

$a_n = -\frac{1}{14}n + \frac{4}{7}$

$a_{14} = -\frac{3}{7}$

(49) $\angle 5 = \boxed{135°}$

(50) $x - 3 = 74$

$x = \boxed{77°}$

$(x-3) + 41 + (y+8) = 180$

$(77-3) + 41 + (y+8) = 180$

$115 + y + 8 = 180$

$\boxed{y = 57°}$

(51) same-side interior
same-side exterior
linear-pair
} supplementary

(52) $z\text{-score} = \frac{\text{value} - \text{mean}}{\text{sd}}$

$z = \frac{80 - 92}{7} = \boxed{-1.71}$ so below average score