

2-5-2022 Math 2020 July 001

60) $c^2 = a^2 + b^2 - 2ab \cos C$

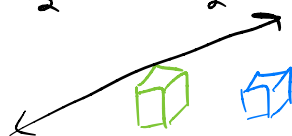
$C = 110^\circ$

Law of
Cosines

Law of
Sines

$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$

$$\frac{n(n+1)}{2} = \frac{9(10)}{2} = 45$$



5b) $9 + 8 + 7 + 6 + 5 + 4 + 3 + 2 + 1 = 45$

54)

1	1	12	13	14	22	23		36
		21	31	41		32		

10 136

$\rightarrow 518$

distinguishable
vs indistinguishable

$(1,1)$ $(1,2)$
 $(2,1)$

53)

$$27^{n^2} = 9^{5n-4}$$

$$(3^3)^{n^2} = (3^2)^{5n-4}$$

$$3^{3n^2} = 3^{10n-8}$$

$$3n^2 = 10n - 8$$

$$3n^2 - 10n + 8 = 0 \rightarrow \text{calculator}$$

$$S2) \quad x = \frac{\text{ten number sum}}{10}$$

$$10x = \text{ten numbers}$$

$$ry = p \text{ numbers (highest/lowest removed)}$$

$$10x - ry = \text{highest and lowest sum}$$

$$4b) \quad H \quad | \quad P(5) \quad | \quad 10$$

$$1 \quad 2 \quad 3 \quad 4$$

$$J \quad \frac{3}{5} \quad \text{3/4 biggest fraction}$$

$$K \quad \frac{5}{9}$$

$$43, 44 \quad 45, 47, 4$$



$$4C2 = 6$$

$$\binom{4}{2} = 6$$

Group 2 and the other 2 are grouped together.

$P(\text{blue, green are paired})$

$$\frac{2}{6}$$

53) A ^{with replacement}
 ~~$\frac{1}{2} \cdot \frac{1}{5}$~~ ^{without replacement}

43, 44 45, 47, 48

40) $|x|^2 - |x| - 2 = 0$
 $x^2 - |x| - 2 = 0$

$$x^2 - x - 2$$

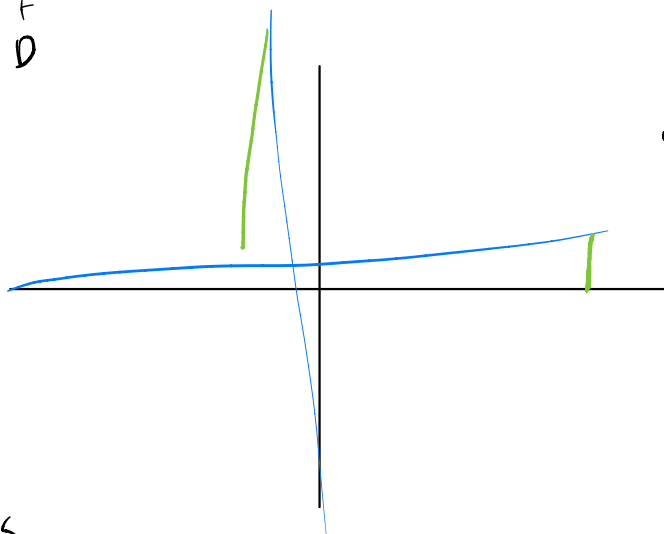
$$(|x| - 2)(|x| + 1)$$

$$x = 2, -2$$

44) F

45) D

47)



for perpendicular slope,
 flip y and x (reciprocal)
 and negate

48) K

50) J - irrational

60) $\log_{(x+3)} (x^2+3) = 2$

$$(x+3)^2 = x^2 + 3$$

$$x^2 + 6x + 9 = x^2 + 3$$

$$6x = -6$$

$$x = -1$$