

Section 3.2

#7)

$$\frac{11!}{2! 2! 2!}$$

11 letters
2 A
2 M
2 T

#15)

8 keys in a ring $\rightarrow (8-1)! = 7!$
each key 2 sides $\rightarrow 7! \cdot 2^8$

#17)

6 contracts

10	10	10	10	10	10
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 $= 10^6$

each with 10 possible firm

#19)

A, B, C, D, E, F
4 to be used

6	5	4	3
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or $P(6, 4) = 360$

#21) *

26	25	4	4
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 $= 10,400$

Important

Sec 3.2

#23 4 in Depth (D)
8 Short (\$)

to be in this order:

or
D. \$.\$. D. \$.\$. D. \$.\$. D. \$.\$.
↓ ↓ ↓ ↓
4. 8. 7. 3. 6. 5. 2. 4. 3. 1. 2. 1
= 28,800

#25) * Remember: or = +, And = ., Except = -
using 1, 2, 3, 4, 5 in 3 digits, with Both
odds & even:

(All Possibilities) except (all odds, all even)
=

5	4	3
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3	2	1
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From 1, 2, 3, 4, 5 1, 3, 5 2, 4
= 60 - 6 - φ = (54)

Notice only 2 even digits 2 & 4
⇒ filling 3 digits is not Poss.