

GIVEN

$$\binom{n}{r} + \binom{n}{r+1} = \binom{n+1}{r+1}$$

write the following in form  $\binom{a}{b}$

$$* \binom{16}{4} + \binom{16}{5}$$

$$n = 16 \quad n+1 = 17$$
$$r = 4 \quad r+1 = 5$$

$$\binom{17}{5} \text{ ANSWER}$$

$$* \binom{10}{4} + \binom{10}{5}$$

$$= \binom{11}{5}$$

$$n = 10 \quad n+1 = 11$$
$$r = 4 \quad r+1 = 5$$

$$* \binom{14}{10} + \binom{14}{11} + \binom{15}{12}$$

$$= \binom{15}{11} + \binom{15}{12}$$

$$= \binom{16}{12} \text{ ANSWER}$$

$$* \binom{20}{15} + \binom{20}{16} + \binom{21}{17} + \binom{22}{18}$$

$$= \binom{21}{16} + \binom{21}{17} + \binom{22}{18}$$

$$= \binom{22}{17} + \binom{22}{18}$$

$$= \binom{23}{18} \quad \text{ANSWER}$$

$$* \binom{91}{13} - \binom{90}{13}$$

$$\binom{n+1}{r+1} - \binom{n}{r+1} = \binom{n}{r}$$

$$\text{ANSWER} = \binom{90}{12}$$