

Name _____

13-5B Lesson Master

Questions on SPUR Objectives
See Student Edition pages 934–937 for objectives.

VOCABULARY

1. **Fill in the Blanks** _____ denotes the $(r + 1)$ st element in row _____ of Pascal's triangle.

SKILLS Objective D

In 1-3, evaluate the expression.

- | | | |
|---------------------------|----------------------------|---------------------------|
| 2. $\binom{8}{3}$ _____ | 3. $\binom{6}{5}$ _____ | 4. $\binom{7}{6}$ _____ |
| 5. $\binom{8}{0}$ _____ | 6. $\binom{8}{8}$ _____ | 7. $\binom{18}{7}$ _____ |
| 8. $\binom{10}{1}$ _____ | 9. $\binom{24}{23}$ _____ | 10. $\binom{24}{1}$ _____ |
| 11. $\binom{16}{3}$ _____ | 12. $\binom{16}{13}$ _____ | 13. $\binom{29}{0}$ _____ |

PROPERTIES Objective F

14. Row 0 and row 5 of Pascal's triangle are given below. Complete rows 1-4 and 6-10.

Row 0										1
Row 1	_____									
Row 2	_____									
Row 3	_____									
Row 4	_____									
Row 5			1	5	10	10	5	1		
Row 6	_____									
Row 7	_____									
Row 8	_____									
Row 9	_____									
Row 10	_____									

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15. Write row 9 of Pascal's Triangle in $\binom{n}{r}$ notation.

16. **Fill in the Blanks** $\binom{16}{3}$ is the _____ element in row _____ of Pascal's Triangle.

17. Where in Pascal's Triangle is the element

a. $\binom{2}{2}$? _____

b. $\binom{43}{10}$? _____

c. $\binom{8}{4}$? _____

d. $\binom{23}{9}$? _____

e. $\binom{14}{3}$? _____

f. $\binom{111}{54}$? _____

18. Use your completed triangle from Question 14 to find

a. $\binom{7}{4}$ _____

b. $\binom{10}{5}$ _____

c. $\binom{9}{6}$ _____

d. $\binom{8}{3}$ _____

e. $\binom{10}{2}$ _____

f. $\binom{10}{8}$ _____

g. $\binom{9}{4}$ _____

h. $\binom{9}{5}$ _____

i. $\binom{8}{4}$ _____

j. $\binom{10}{3}$ _____

k. $\binom{10}{4}$ _____

l. $\binom{10}{6}$ _____

19. Solve for a and b : $\binom{a}{7} + \binom{9}{8} = \binom{b}{8}$ _____

REVIEW Lesson 11-2, Objective A

In 20-25, multiply and write the product in standard form.

20. $(a + b)^2$

21. $(x + 3)^2$

22. $(4m^2 + 3m - 2)(6m - 1)$

23. $(y - 2)(y + 3)(y - 5)$

24. $(a + b)^3$

25. $(x + 3)^3$
