Name Answer Key

Secondary Math 2

Period____

6-3 Multiplying Binomials

Find each product.

1) $4(5x - 3y)$

	5x	-3y
4	20x	-12y

$20x - 12y$

2) $3u^3(4u + 5v)$

	4u	5v
$3u^3$	$12u^3$	$15u^3v$

$12u^3 + 15u^3v$

3) $5xy(3x^2 - 4xy + 2y^2)$

$15x^3y - 20x^2y^2 + 10xy^3$

4) $4v(u^2 - 5uv - 5v^2)$

$4u^2v - 20uv^2 - 20v^3$

5) $(k + 4)(5k - 2)$

	5K	-2
K	$5K^2$	-2K
4	20K	-8

$5K^2 + 18K - 8$

6) $(5n + 2)(n + 5)$

	n	5
5n	$5n^2$	25n
2	2n	10

$5n^2 + 27n + 10$

7) $(2x - 2)(3x + 2)$

	3X	2
2X	$6X^2$	4X
-2	-6X	-4

$6X^2 - 2X - 4$

8) $(k + 2)(3k - 5)$

	3K	-5
K	$3K^2$	-5K
2	6K	-10

$3K^2 + K - 10$

9) $(4x - 8y)(2x - 8y)$

	2x	-8y
4x	$8x^2$	-32xy
-8y	-16xy	$64y^2$

$8x^2 - 48xy + 64y^2$

10) $(-8x - 7y)(-6x - y)$

	-6x	-y
-8x	$48x^2$	8xy
-7y	42xy	$7y^2$

$48x^2 + 50xy + 7y^2$

11) $(7k - 5)^2 = (7k-5)(7k-5)$

	7K	-5
7K	$49K^2$	-35K
-5	-35K	25

$49K^2 - 70K + 25$

12) $(4n + 7)^2$

	4n	7
4n	$16n^2$	28n
7	28n	49

$16n^2 + 56n + 49$

13) $(x + 5)^2$

	X	5
X	X^2	5X
5	5X	25

$X^2 + 10X + 25$

14) $(7n + 8)^2$

	7n	8
7n	$49n^2$	56n
8	56n	64

$49n^2 + 112n + 64$

Name each polynomial by degree and number of terms.

15) $4x + 2$ Binomial 1st degree

16) $-6b^3 + 2b^2$ Binomial 3rd degree - cubic

17) 8 Constant - degree 0 OR Monomial

18) $6n^2$ Monomial 2nd degree - quadratic

Simplify. Your answer should contain only positive exponents with no fractional exponents in the denominator.

19) $2x^{\frac{1}{3}} \cdot 2x^{1}$ $\frac{1}{3}+1 = \frac{1}{3}+\frac{3}{3} = \frac{4}{3}$ $4x^{\frac{4}{3}}$

20) $3n^{\frac{5}{3}} \cdot n^{\frac{3}{2}}$ $\frac{2\cdot 5}{2\cdot 3}+\frac{3\cdot 3}{2\cdot 3}$ $\frac{10}{6}+\frac{9}{6}$ $3n^{\frac{19}{6}}$

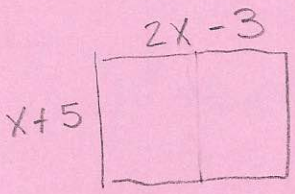
Simplify. Your answer should contain only positive exponents.

21) $x^5y^{-2}\cdot(-x^3)^{-3}$ $\frac{x^5}{y^2(-x^3)^3} = \frac{x^5}{y^2(-x^9)}$ $= \frac{1}{-x^4y^2}$

22) $(y^{-2})^{-2}\cdot y^2$ OR $(y^{-2})^{-2}\cdot y^2 = y^4y^2 = y^6$

$\frac{1}{(y^{-2})^2}\cdot y^2 = \frac{1}{y^{-4}}\cdot y^2 = y^4\cdot y^2 = y^6$

23) A rectangle has a length of ~~$2x - 3$~~ and a width of $x + 5$. Find the area of the rectangle in terms of x.



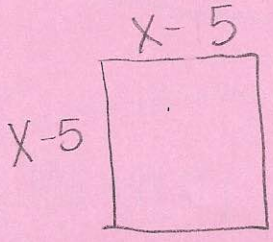
$A = l \times w$

$= (x+5)(2x-3)$

$= 2x^2 + 7x - 15$

	2X	-3
X	$2X^2$	$-3X$
5	$10X$	-15

24) Find the area of a square with one side $x - 5$.



$A = s^2$

$= (x-5)^2$

$= (x-5)(x-5)$

$= x^2 - 10x + 25$

	X	-5
X	X^2	$-5X$
-5	$-5X$	25