Name

Period

Date

7.6

Factoring $aX^2 + bX + c$

1) $2w^2 + 13w + 15$

1.15
3.5

2.1 $(2w + 3)(1w + 5)$

3
10
13

2) $3d^2 + 20d + 12$

1.12
2.6
~~3.4~~

3.1 $(3d + 2)(1d + 6)$

2
18
20

3) $3p^2 - 7p - 40$

1.40
2.20
4.10
5.8

3.1 $(3p + 8)(1p - 5)$

$-15p$
$8p$
$-7p$

4) $4n^2 + 62n - 32$

$2(2n^2 + 31n - 16)$

1.16
2.8
4.4

2.1 $(2n - 1)(1n + 16)$

$+32$
-1
$+31$

5) $6x^2 - 10x - 24$

2 $(3x^2 - 5x - 12)$

1.12
2.6
3.4

3.1 $(3x + 4)(1x - 3)$

-9
4
-5

6) $5x^2 - 17x + 14$

1.14
2.7

5.1 $(5x - 7)(1x - 2)$

-7
-10
-17

7) $14x^2 - 67x + 63$

1·14
2·7

$(2x - 7)(7x - 9)$

1·63
9·7

-49
-18
-67

8) $2m^2 - m - 15$

1, 15
3·5

2·1

$(2m + 5)(1m - 3)$

$5m$
$-6m$
$-1m$

9) $3x^2 + 9x - 84$

1·84
2·42
4·21
6·14
7·12

3·1

$(3x - 12)(x + 7)$

$-12x$
$+21x$
$+9x$

10) $4y^2 + 26y + 30$

$2(2y^2 + 13y + 15)$

$2 \cdot 1$

$1 \cdot 15$

$3 \cdot 5$

$2(2y + 3)(1y + 5)$

$3 + 10 = 13$

11) $5t^2 - 24t - 5$

$5 \cdot 1$

$5 \cdot 1$

$(5t + 1)(1t - 5)$

$1 - 25 = -24$

12) $7c^2 - 2c - 9$

$1 \cdot 9$

$7 \cdot 1$

$(7c + 9)(1c + 1)$

$3 \cdot 3$

$-\frac{9}{7} + 2$

13) $8x^2 - 42x + 27$

$1 \cdot 27$, $3 \cdot 9$

$8 \cdot 1$, $2 \cdot 4$

$(4x - 3)(2x - 9)$

-6

-36

-42

14) $6x^2 - 2x - 20$

$(3x^2 - 1x - 10)$

2

$1 \cdot 10$, $2 \cdot 5$

$3 \cdot 1$

$2(3x + 5)(1x - 2)$

5

-6

-1

15) $2c^2 - 23c + 11$

$1 \cdot 11$

$2 \cdot 1$

$(2c - 1)(1c - 11)$

-1

-22

-23

16) The area of a rectangular computer is $4x^2 + 20x + 16$. The width of the screen is $(2x+8)(2x+2)$ What is the length of the computer

$(2x+2)$

17) The area of a rectangular granite counter top is $12x^2 + 10x - 12$) The width of the counter top is $(2x+3)(6x-4)$ What is the length of the counter top?

18
-8
10

$(6x-4)$

18) The area of a retangular cover is $4x^2 - 6x - 40$ The width of the cover is $(2x-8)$ $(2x+5)$ What is the length of the cover?

$(2x+5)$

19) The area of a rectangular parking lot is $21x^2 - 44x + 15$ The width of the parking lot is $(3x-5)(7x-3)$. What is the length of the parking lot.

$7x-3$

20) $6x^2 - 10x - 4$

2 $(3x^2 - 5x - 2)$ 1.2

3.1 $2(3x + 1)(1x - 2)$

1
-1
-5

21) $6d^2 + 21d + 15$

3 $(2d^2 + 7d + 5)$

2.1 $3(2d + 5)(1d + 1)$ 5.1

2
5
7

22) $8n^2 + 68n + 84$

4 $(2n^2 + 17n + 21)$ 1.21

2.1 $4(2n + 3)(1n + 7)$ 3.7

3
14
17