

















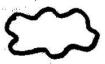

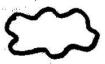









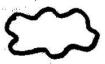













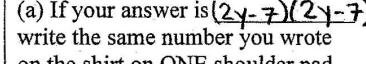
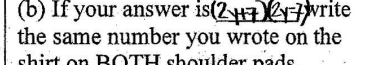
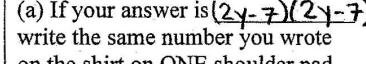
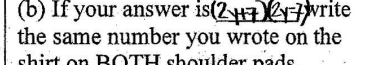




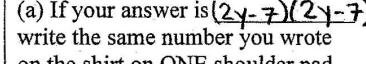
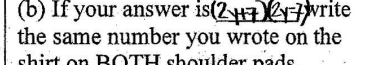




















FACEing MATH™

Lesson 12: Algebra Review: Factoring

Directions: Find the correct answer and use a pencil to DRAW the object that corresponds to your answer.

<p>1. $X^2 + 3x$</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;">(a) If your answer is $X(X+3)$ draw the following helmet.</td> <td style="width: 50%; text-align: center; padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;">(b) If your answer is $X(X+3x)$ draw the following helmet.</td> <td style="text-align: center; padding: 2px;"></td> </tr> </table>	(a) If your answer is $X(X+3)$ draw the following helmet.		(b) If your answer is $X(X+3x)$ draw the following helmet.		<p>2. $a^2b + 2ab$</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;">(a) If your answer is $ab(a+2)$ draw the following eyes.</td> <td style="width: 50%; text-align: center; padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;">(b) If your answer is $ab(ab+2)$ draw the following eyes.</td> <td style="text-align: center; padding: 2px;"></td> </tr> </table>	(a) If your answer is $ab(a+2)$ draw the following eyes.		(b) If your answer is $ab(ab+2)$ draw the following eyes.		<p>3. $3x^6 - 5x^3 + 2x^2$</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;">(a) If your answer is $x(3x^4 + 5x + 2)$ draw the following nose.</td> <td style="width: 50%; text-align: center; padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;">(b) If your answer is $x^2(3x^4 - 5x + 2)$ draw the following nose.</td> <td style="text-align: center; padding: 2px;"></td> </tr> </table>	(a) If your answer is $x(3x^4 + 5x + 2)$ draw the following nose.		(b) If your answer is $x^2(3x^4 - 5x + 2)$ draw the following nose.	
(a) If your answer is $X(X+3)$ draw the following helmet.														
(b) If your answer is $X(X+3x)$ draw the following helmet.														
(a) If your answer is $ab(a+2)$ draw the following eyes.														
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(a) If your answer is $x(3x^4 + 5x + 2)$ draw the following nose.														
(b) If your answer is $x^2(3x^4 - 5x + 2)$ draw the following nose.														
<p>4. $9x^4 - 15x^3 + 3x^2$</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;">(a) If your answer is $3x^2(3x^2 - 5x + 1)$ draw the following mouth.</td> <td style="width: 50%; text-align: center; padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;">(b) If your answer is $3x^2(3x^2 + 5x - 1)$ draw the following mouth.</td> <td style="text-align: center; padding: 2px;"></td> </tr> </table>	(a) If your answer is $3x^2(3x^2 - 5x + 1)$ draw the following mouth.		(b) If your answer is $3x^2(3x^2 + 5x - 1)$ draw the following mouth.		<p>5. $2p^3q^2 + p^2q + pq$</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;">(a) If your answer is $pq(2p^2q - p - 1)$ draw a long, skinny oval under each eye.</td> <td style="width: 50%; text-align: center; padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;">(b) If your answer is $pq(2p^2q + p + 1)$ draw a rectangle under each eye.</td> <td style="text-align: center; padding: 2px;"></td> </tr> </table>	(a) If your answer is $pq(2p^2q - p - 1)$ draw a long, skinny oval under each eye.		(b) If your answer is $pq(2p^2q + p + 1)$ draw a rectangle under each eye.		<p>6. $12m^4n^4 + 3m^2n^2 + 6m^2n^2$</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;">(a) If your answer is $3m^2n^2(4m^2n^2 - m^2)$ draw the following design on the shirt sleeves.</td> <td style="width: 50%; text-align: center; padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;">(b) If your answer is $3m^2n^2(4m^2n^2 + m^2)$ draw the following design on the shirt sleeves.</td> <td style="text-align: center; padding: 2px;"></td> </tr> </table>	(a) If your answer is $3m^2n^2(4m^2n^2 - m^2)$ draw the following design on the shirt sleeves.		(b) If your answer is $3m^2n^2(4m^2n^2 + m^2)$ draw the following design on the shirt sleeves.	
(a) If your answer is $3x^2(3x^2 - 5x + 1)$ draw the following mouth.														
(b) If your answer is $3x^2(3x^2 + 5x - 1)$ draw the following mouth.														
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(a) If your answer is $3m^2n^2(4m^2n^2 - m^2)$ draw the following design on the shirt sleeves.														
(b) If your answer is $3m^2n^2(4m^2n^2 + m^2)$ draw the following design on the shirt sleeves.														
<p>7. $x^2 - 9$</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;">(a) If your answer is $(x-3)(x-3)$ draw the following shoulder pads.</td> <td style="width: 50%; text-align: center; padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;">(b) If your answer is $(x+3)(x-3)$ draw the following shoulder pads.</td> <td style="text-align: center; padding: 2px;"></td> </tr> </table>	(a) If your answer is $(x-3)(x-3)$ draw the following shoulder pads.		(b) If your answer is $(x+3)(x-3)$ draw the following shoulder pads.		<p>8. $y^2 - 64$</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;">(a) If your answer is $(y-8)(y-8)$ write YOUR AGE in BIG, hollow numbers on the shirt.</td> <td style="width: 50%; text-align: center; padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;">(b) If your answer is $(y-8)(y-8)$ write the number 1 on the shirt.</td> <td style="text-align: center; padding: 2px;"></td> </tr> </table>	(a) If your answer is $(y-8)(y-8)$ write YOUR AGE in BIG, hollow numbers on the shirt.		(b) If your answer is $(y-8)(y-8)$ write the number 1 on the shirt.		<p>9. $4y^2 - 49$</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;">(a) If your answer is $(2y-7)(2y-7)$ write the same number you wrote on the shirt on ONE shoulder pad.</td> <td style="width: 50%; text-align: center; padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;">(b) If your answer is $(2y+7)(2y-7)$ write the same number you wrote on the shirt on BOTH shoulder pads.</td> <td style="text-align: center; padding: 2px;"></td> </tr> </table>	(a) If your answer is $(2y-7)(2y-7)$ write the same number you wrote on the shirt on ONE shoulder pad.		(b) If your answer is $(2y+7)(2y-7)$ write the same number you wrote on the shirt on BOTH shoulder pads.	
(a) If your answer is $(x-3)(x-3)$ draw the following shoulder pads.														
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<p>10. $16x^2 - 25y^2$</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;">(a) If your answer is $(4x-5y)(4x+5y)$ draw the following goalpost in the background.</td> <td style="width: 50%; text-align: center; padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;">(b) If your answer is $(4x-5y)(4x-5y)$ draw the following goalpost in the background.</td> <td style="text-align: center; padding: 2px;"></td> </tr> </table>	(a) If your answer is $(4x-5y)(4x+5y)$ draw the following goalpost in the background.		(b) If your answer is $(4x-5y)(4x-5y)$ draw the following goalpost in the background.		<p>11. $32y^2 - 8y^6$</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;">(a) If your answer is $8y^2(2+y^2)$ draw the following football in the background.</td> <td style="width: 50%; text-align: center; padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;">(b) If your answer is $8y^2(2-y^2)$ draw the following football in the background.</td> <td style="text-align: center; padding: 2px;"></td> </tr> </table>	(a) If your answer is $8y^2(2+y^2)$ draw the following football in the background.		(b) If your answer is $8y^2(2-y^2)$ draw the following football in the background.		<p>12. $5 - 20y^6$</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;">(a) If your answer is $5(1-2y^3)(1-2y^3)$ draw the following blades of grass all over the background.</td> <td style="width: 50%; text-align: center; padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;">(b) If your answer is $5(1+2y^3)(1-2y^3)$ draw the following tufts of grass all over the background.</td> <td style="text-align: center; padding: 2px;"></td> </tr> </table>	(a) If your answer is $5(1-2y^3)(1-2y^3)$ draw the following blades of grass all over the background.		(b) If your answer is $5(1+2y^3)(1-2y^3)$ draw the following tufts of grass all over the background.	
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Directions: Find the correct answer and **COLOR** the object that corresponds to your answer.

<p>13.</p> $x^2 + 7x + 12$ <p>(a) If your answer is $(x+6)(x+2)$ color the facemask on the helmet yellow.</p> <p>(b) If your answer is $(x+4)(x+3)$ color the facemask on the helmet red.</p>	<p>14.</p> $x^2 + 13x + 36$ <p>(a) If your answer is $(x+9)(x+4)$ color the stripe on the helmet red.</p> <p>(b) If your answer is $(x+6)(x+6)$ color the stripe on the helmet green.</p>	<p>15.</p> $x^2 - 8x + 15$ <p>(a) If your answer is $(x+5)(x-3)$ color the rest of the helmet brown.</p> <p>(b) If your answer is $(x-5)(x-3)$ color the rest of the helmet blue.</p>
<p>16.</p> $x^2 - 9x + 20$ <p>(a) If your answer is $(x-4)(x-5)$ outline the eyes and nose in black.</p> <p>(b) If your answer is $(x+4)(x+5)$ outline the eyes and nose in red.</p>	<p>17.</p> $x^2 - 7x + 12$ <p>(a) If your answer is $(x-3)(x-4)$ color the shapes under the eyes black.</p> <p>(b) If your answer is $(x+3)(x+4)$ color the shapes under the eyes yellow.</p>	<p>18.</p> $m^2 + 8mn + 15n^2$ <p>(a) If your answer is $(m+3)(m+5)$ color the mouth red.</p> <p>(b) If your answer is $(m+3n)(m+5n)$ color the mouth pink.</p>
<p>19.</p> $a^2 + 5ab + 6b^2$ <p>(a) If your answer is $(a+3)(a+2)$ color the face, nose, neck, and arms apricot.</p> <p>(b) If your answer is $(a+3b)(a+2b)$ color the face, nose, neck, and arms brown.</p>	<p>20.</p> $p^2 + 6pq + 8q^2$ <p>(a) If your answer is $(p+4)(p+2)$ color the stripe on the sleeves green.</p> <p>(b) If your answer is $(p+4q)(p+2q)$ color the stripe on the sleeves red.</p>	<p>21.</p> $6x^2 + 7x + 2$ <p>(a) If your answer is $(3x+2)(2x+1)$ leave the numbers on the shirt white and outline them in black.</p> <p>(b) If your answer is $(3x+1)(2x+2)$ color the numbers on the shirt red.</p>
<p>22.</p> $8x^2 + 10x - 3$ <p>(a) If your answer is $(4x-3)(2x+1)$ color the rest of the shirt orange.</p> <p>(b) If your answer is $(4x-1)(2x+3)$ color the rest of the shirt blue.</p>	<p>23.</p> $6x^2 - 41x - 7$ <p>(a) If your answer is $(6x-7)(x+1)$ color the numbers on the shoulder pads yellow.</p> <p>(b) If your answer is $(6x+1)(x-7)$ leave the numbers on the shoulder pads white and outline them in black.</p>	<p>24.</p> $3x^2 - 21x + 36$ <p>(a) If your answer is $3(x-3)(x-4)$ color the rest of the shoulder pads blue.</p> <p>(b) If your answer is $3(x+3)(x-6)$ or $3(x-6)(x+3)$ color the rest of the shoulder pads purple.</p>
<p>25.</p> $8x^2 - 2$ <p>(a) If your answer is $2(2x+1)(2x-1)$ color the goalpost yellow.</p> <p>(b) If your answer is $2(2x+1)(2x+1)$ color the goalpost brown.</p>	<p>26.</p> $9a^2 - 15a - 6$ <p>(a) If your answer is $3(3a+1)(a-2)$ color the football brown.</p> <p>(b) If your answer is $3(3a-2)(a+1)$ color the football orange.</p>	<p>27.</p> $2x^2 + 4x - 6$ <p>(a) If your answer is $2(x+1)(x-3)$ color the background/grass yellow.</p> <p>(b) If your answer is $2(x+3)(x-1)$ color the background/grass green.</p>

Artistic Tip: When you are done coloring, it looks nice to outline the major features using a black crayon or marker.

Name: _____ Period: _____

