

Factoring and Algebraic Expressions

- 1** Which answer is the same expression as this

$$5yq + 35q + 4y + 28$$

A

$$(y + 7)(5q + 4)$$

B

$$(9y + 9)(7q - 7)$$

- 2** Which answer is the same expression as this

$$zw + 4w - 5z - 20$$

A

$$(z + 20)(w - 5)$$

B

$$(z + 4)(w - 5)$$

C

$$(z - 4)(w + 1)$$

D

$$(z + 4)(w - 9)$$

E

$$(z - 20)(w + 9)$$

- 3** Find common factors of the first 2 and last 2 terms, and solve.

$$45n^2 + 54n - 35n - 42$$

$$A (9n + 6)(42n - 7)$$

$$B (42n - 6)(n + 7)$$

$$C (5n + 6)(9n - 7)$$

$$D (9n - 6)(95n - 7)$$

$$E (9n + 6)(n + 7)$$

- 4** Factor the 2nd order polynomial to give three binomial factors

$$(t - 4)(t^2 - 4)$$

A

$$(t - 4)(t - 2)(t + 2)$$

B

$$(t + 4)(t - 2)(t - 2)$$

- 5** What does this expression simplify to?

$$m^2 - 16$$

A

$$(m + 4)^2$$

B

$$(m - 4)^2$$

C

$$(m + 4)(m - 4)$$

- 6** Find the value of z without using a calculator

$$\sqrt{4z^2 + 8z + 4} = 24$$

A

$$z = 17$$

B

$$z = 11$$

C

$$z = 14$$

D

$$z = 8$$

E

$$z = 2$$

F

$$z = 7$$

- 7** This polynomial is a perfect square. What factor squared would give this polynomial?

$$d^2 - 2d + 1$$

A

$$(d - 4)^2$$

B

$$(d + 1)^2$$

C

$$(d - 1)^2$$

D

$$(d - 2)^2$$

E

$$(d + 0)^2$$

F

$$(d - 3)^2$$

- 8** Which answer is the same expression as this

$$z^2 - 2z - 35$$

A

$$(z + 7)(2z - 5)$$

B

$$(z + 7)(z - 5)$$

C

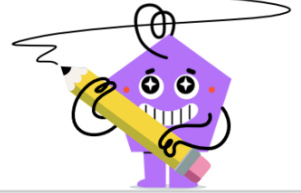
$$(z - 7)(2z + 5)$$

D

$$(z - 7)(z + 5)$$

E

$$(35z - 7)(z + 5)$$



Factoring and Algebraic Expressions

9 Solve the square polynomial to finish factoring

$$y = -5(x^2 - 8x + 16) + 80 - 76$$

A	$y = -5(x + 4)^2 + 4$
B	$y = -5(x - 4)^2 - 4$
C	$y = 5(x - 4)^2 + 4$
D	$y = -5(x - 4)^2 + 4$

10 Which answer is the same expression as this

$$10t^2 + 17t - 20$$

A	$(2t - 5)(t + 4)$	B	$(2t + 5)(5t - 4)$
C	$(5t + 5)(20t - 4)$	D	$(5t - 5)(20t + 4)$
E	$(t - 5)(17t + 4)$		

11 Remove a common factor and factor this quadratic

$$6z^2 + 54z + 120$$

A	$6(z + 5)(z + 4)$
B	$6(z + 120)(z + 49)$

12 Use grouping to factor this order 3 polynomial fully

$$r^3 - 8r^2 - 9r + 72$$

A	$(r - 8)(r + 3)(r + 3)$
B	$(r - 8)(r - 3)(r + 3)$

13 Which answer is the same expression as this

$$m^2 + 10m + 24$$

A	$(m + 6)(2m - 4)$
B	$(m + 6)(m + 4)$

14 Which answer is the same expression as this

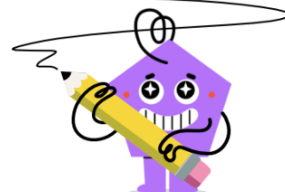
$$10yn + 14y$$

A	$2y(5n + 7)$	B	$14y(n - 7)$
C	$n(y + 7)$	D	$107(y - n)$
E	$7y(n + 7)$		

15 Which answer is the same expression as this

$$20m^2 + 28m$$

A	$m^2(m - 7)$	B	$4m(5m + 7)$
C	$4(4m + m)$	D	$7m - m$
E	$5m - m$		



Factoring and Algebraic Expressions

- 16** Remove a common factor from this quadratic to make it easier to factor

$$3z^2 - 18z - 81$$

A

$$3(z^2 - 6z - 27)$$

B

$$3(z^2 + 27z - 6)$$

- 17** Which answer is the same expression as this

$$6p^2 + 25p + 14$$

A

$$(2p + 2)(p + 7)$$

B

$$(3p + 2)(2p + 7)$$

- 18** Remove a common factor and factor this quadratic

$$-2y^2 + 4y + 96$$

A

$$-2(y - 6)(y - 8)$$

B

$$-2(y + 6)(y + 8)$$

C

$$2(y - 6)(y + 8)$$

D

$$2(y + 96)(y - -4)$$

E

$$-2(y + 6)(y - 8)$$