**Factor polynomial expressions completely****1**

Which answer is the same expression as this
 $5q + 30$

A

$$5(q + 6)$$

B

$$(q^5 + 30)$$

2

Which answer is the same expression as this
 $49qm + 35q$

A

$$q(m - 5)$$

B

$$35q(m - 5)$$

C

$$5(q + m)$$

D

$$5q(m + 5)$$

E

$$7q(7m + 5)$$

3

Which answer is the same expression as this
 $63t^2 - 27t$

A

$$9t(7t - 3)$$

B

$$7(9t + t)$$

C

$$t^2(t - 3)$$

D

$$3t - t$$

E

$$9(t + t)$$

4

Remove a common factor from this quadratic to make it easier to factor

$$9y^2 + 72y + 135$$

A

$$9(y^2 + 8y - 15)$$

B

$$9(y^2 + 8y + 15)$$

5

Which answer is the same expression as this
 $tn + 2n + 6t + 12$

A

$$(t + 2)(n - 6)$$

B

$$(t + 2)(n + 6)$$

6

Which answer is the same expression as this
 $42rt - 18t - 14r + 6$

A

$$(7r - 3)(6t - 2)$$

B

$$(2r - 7)(t + 14)$$

C

$$(r - 7)(6t - 3)$$

D

$$(7r - 3)(6t + 2)$$

E

$$(7r + 7)(3t - 3)$$

7

Find common factors of the first 2 and last 2 terms

$$8z^2 + 24z + 7z + 21$$

A

$$7z(8z + 3) - 7(8z + 3)$$

B

$$8z(z + 3) + 7(z + 3)$$

8

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

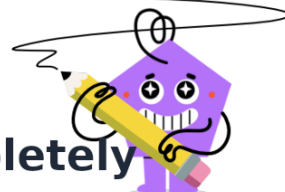
$$4z^2 + 8z + 7z + 14$$

A

$$(z + 2)(4z + 7)$$

B

$$(14z + 2)(z - 7)$$

**Factor polynomial expressions completely****9**

Is this factoring step correct?

$$m^2(m+8) + 6(m+8) \\ = (m-8)(m^2+6)$$

A

Yes

B

No

10

Is this factoring step correct?

$$y^3 - 2y^2 + 3y - 6 \\ = (y-2)(y^2+3)$$

A

No

B

Yes

11

Which answer is the same expression as this

$$w^2(w-4) - 4(w-4)$$

A

$$(w-4)(w-2)(w+2)$$

B

$$(w-4)(w+2)(w+2)$$

12

Factor the 2nd order polynomial to give three binomial factors

$$(m-7)(m^2-4)$$

A

$$(m-7)(m-2)(m+2)$$

B

$$(m-7)(m-2)(m-2)$$

13

Is this factoring step correct?

$$(t-4)(t^2-9) \\ = (t-4)(t-3)(t+3)$$

A

Yes

B

No

14

Is this factoring step correct?

$$q^3 - 3q^2 - 49q + 147 \\ = (q-3)(q+7)(q-7)$$

A

Yes

B

No

15

Is this factoring step correct?

$$x^3 + 8x^2 + 4x + 32 \\ = x^2(x+8) + 4(x+8)$$

A

Yes

B

No

16

Use grouping to factor this order 3 polynomial fully

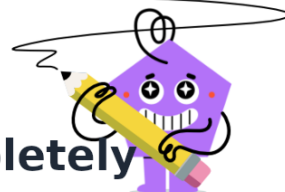
$$q^3 - 6q^2 - 16q + 96$$

A

$$(q-6)(q-4)(q+4)$$

B

$$(q-6)(q+4)(q+4)$$

**Factor polynomial expressions completely****17**

Remove a common factor and factor this quadratic

$$-6y^2 - 6y + 120$$

A $6(y + 120)(y - -4)$

B $-6(y + 5)(y + 4)$

C $-6(y + 5)(y - 4)$

D $6(y - 5)(y + 4)$

E $-6(y - 5)(y - 4)$

18

Which answer is the same expression as this

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

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

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

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

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

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

19

Which answer is the same expression as this

$$4w^2 + 20w + 21$$

A $(2w - 7)(21w + 3)$

B $(w - 7)(20w + 3)$

C $(2w + 7)(2w + 3)$

D $(20w - 7)(2w + 3)$

E $(21w + 7)(w - 3)$

20

Use factor theorem and synthetic division to fully factor this polynomial.

$$x^3 - 2x^2 - 7x - 4$$

A $(x + 3)(x + 3)(x + 2)$

B $(x + 1)(x - 4)(x + 1)$

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

D $(x - 3)(x + 3)(x + 3)$