EXPANSION

A DISTRIBUTIVE LAW 1

A.1 EXPANDING WITH ADDITION: LEVEL 1

Ex 1: Expand and simplify:

$$5(x+3) = \square$$

Ex 2: Expand and simplify:

$$2(3+x) = \square$$

Ex 3: Expand and simplify:

$$3(2x+2) = \square$$

Ex 4: Expand and simplify:

$$2(5+3x) = \square$$

A.2 EXPANDING WITH ADDITION: LEVEL 2

Ex 5: Expand and simplify:

$$x(x+1) = \square$$

Ex 6: Expand and simplify:

$$x(2x+3) = \square$$

Ex 7: Expand and simplify:

$$2x(x+2) = \square$$

Ex 8: Expand and simplify:

$$3x(2x+5) = \square$$

A.3 EXPANDING WITH ADDITION: LEVEL 3

Ex 9: Expand and simplify:

$$2(x+1)+x = \square$$

Ex 10: Expand and simplify:

$$2(2x+3)-3x = \square$$

Ex 11: Expand and simplify:

$$x(x+2)-x^2 = \square$$

Ex 12: Expand and simplify:

$$2x(3x+2)-8x = \square$$

A.4 EXPANDING WITH SUBTRACTION: LEVEL 1

Ex 13: Expand and simplify:

$$2(x-2) = \square$$

Ex 14: Expand and simplify:

$$3(5x-6) = \square$$

Ex 15: Expand and simplify:

$$2(3-x) = \square$$

Ex 16: Expand and simplify:

$$4(3-5x) = \square$$

A.5 EXPANDING WITH SUBTRACTION: LEVEL 2

Ex 17: Expand and simplify:

$$x(x-1) = \square$$

Ex 18: Expand and simplify:

$$x(2x-3) = \square$$

Ex 19: Expand and simplify:

$$2x(x-2) = \square$$

Ex 20: Expand and simplify:

$$3x(2x-5) = \square$$

A.6 EXPANDING WITH SUBTRACTION: LEVEL 3

Ex 21: Expand and simplify

$$2(x-2)+4 = \square$$

Ex 22: Expand and simplify

$$4(x-3)-5x = \square$$

Ex 23: Expand and simplify

$$x(x-2)+6 = \square$$

Ex 24: Expand and simplify

$$2(x-2)+3x-10 = \square$$

B DISTRIBUTIVE LAW 2

B.1 EXPANDING WITH ADDITION

Ex 25: Expand and simplify

$$(x+4)(2x+2) = \boxed{}$$

Ex 26: Expand and simplify

$$(x+2)(x+1) = \boxed{}$$

Ex 27: Expand and simplify

$$(x+3)(x+4) = \boxed{}$$

Ex 28: Expand and simplify

$$(2x+1)(3x+2) = \boxed{}$$

Ex 29: Expand and simplify

$$(2x+1)(3+x^2) = \boxed{}$$

Ex 30: Expand and simplify

$$(x+1)^2 = \boxed{}$$

B.2 EXPANDING WITH SUBTRACTION

Ex 31: Expand and simplify

$$(x+2)(x-1) = \boxed{}$$

Ex 32: Expand and simplify

$$(x-1)(x-2) = \boxed{}$$

Ex 33: Expand and simplify

$$(x+3)(x-2) = \boxed{}$$

Ex 34: Expand and simplify

$$(2x+1)(1-2x) = \boxed{}$$

Ex 35: Expand and simplify

$$(-1+2x)(1-x) = \boxed{}$$

C DIFFERENCE OF TWO SQUARES

C.1 EXPANDING: LEVEL 1

Ex 36: Expand and simplify

$$(x+1)(x-1) = \boxed{}$$

Ex 37: Expand and simplify

$$(x-3)(x+3) = \boxed{}$$

Ex 38: Expand and simplify

$$(4-x)(4+x) = \boxed{}$$

Ex 39: Expand and simplify

$$(5+x)(5-x) = \boxed{}$$

C.2 EXPANDING: LEVEL 2

Ex 40: Expand and simplify

$$(2x-4)(2x+4) = \boxed{}$$

Ex 41: Expand and simplify

$$(x+\sqrt{2})(x-\sqrt{2}) = \boxed{}$$

Ex 42: Expand and simplify

$$\left(\frac{1}{2}-x\right)\left(\frac{1}{2}+x\right) = \boxed{}$$

Ex 43: Expand and simplify

$$\left(\tfrac{x}{2}-1\right)\left(\tfrac{x}{2}+1\right) = \boxed{}$$

D PERFECT SQUARES EXPANSION

D.1 EXPANDING WITH ADDITION

Ex 44: Expand and simplify

$$(x+2)^2 = \boxed{}$$

Ex 45: Expand and simplify

$$(3+x)^2 = \boxed{}$$

Ex 46: Expand and simplify

$$(2x+1)^2 = \boxed{}$$

Ex 47: Expand and simplify

$$(2+3x)^2 = \boxed{}$$

D.2 EXPANDING WITH SUBTRACTION

Ex 48: Expand and simplify

$$(x-2)^2 = \boxed{}$$

Ex 49: Expand and simplify

$$(3-x)^2 = \boxed{}$$

Ex 50: Expand and simplify

$$(2x-1)^2 = \boxed{}$$

Ex 51: Expand and simplify

$$(2-3x)^2 = \boxed{}$$