Answer Key- Simplify expressions

1. 3x+5x
Combine like terms:
(3+5)x=8x
Answer: 8x

2.7y−2y
Combine like terms:
(7−2)y=5y.
Answer: 5y

3. 4a+6+3a
Combine like terms
4a+3a=7a. Then keep constant:
7a+6.
Answer:
7a+6

4. 5p+2−3p+7
Combine like terms
5p−3p=2p.
Combine constants:
2+7=9
Answer: 2p+9

5. 9m+2n+3m−n
Combine m-terms:
9m+3m=12m.
Combine n-terms:
2n−n=n.
Answer: 12m+n

6. 2x+3y+4x+5y
Combine x-terms:
2x+4x=6x.
Combine y-terms:
3y+5y=8y.
Answer: 6x+8y

7. 6a−2b+4a+3b
Combine a-terms:
6a+4a=10a.
Combine b-terms:
−2b+3b=b.
Answer:
10a+b

8. 8k−5+3k+2
Combine k-terms:
8k+3k=11k.
Combine constants:
−5+2=−3.
Answer: 11k−3

9. 7r−2(r+3)
Distribute:
−2(r+3)=−2r−6.
Then
7r−2r−6=5r−6.
Answer: 5r−6

10. 5(x+4)+3x
Distribute:
5(x+4)=5x+20.
Then
5x+20+3x=8x+20.
Answer: 8x+20

11. 2(3y+5)
Distribute:

2x3y=6y
2x5=10
Answer:
6y+10

12. 4(2a−3)+a
Distribute:
4(2a−3)=8a−12.
Then
8a−12+a
Answer:9a−12

13. 3(2x+1)−(x+4)
Distribute:
3(2x+1)=6x+3
Distribute minus:
−(x+4)=−x−4
Then
6x+3−x−4=5x−1.

14. 6m−3(2m−5)
Distribute:
−3(2m−5)=−6m+15.
6m−6m+15=15. (the m-terms cancel)

15.
2n+4n+6n
Combine like terms: 2n+4n+6n=12n

Answer: 12n

16. 10p−(3p+2)
Distribute minus: −(3p+2)=−3p−2
Then 10p−3p−2=7p−2

17. 5(x+2y)+2(x−y)
Distribute: 5(x+2y)=5x+10y

2(x−y)=2x−2y
Add: 5x+10y+2x−2y=7x+8y

Answer: 7x+8y

18. 4(3a+2b)−2(a+b)

Distribute: 4(3a+2b)=12a+8b

−2(a+b)=−2a−2b

Add: 12a+8b−2a−2b=10a+6b

19. 7m+5n−3m+4n
Combine m-terms: 7m−3m=4m

7m-3m = 4m7m−3m=4m.
Combine n-terms: 5n+4n=9n
→ 4m+9n

Answer: 4m+9n

20.2(2x+3y−1)+3(x−y)
Distribute: 2(2x+3y−1)=4x+6y−2

3(x−y)=3x−3y
Add: 4x+6y−2+3x−3y=7x+3y−2

Answer: 7x+3y−2