

9-16-19 1st Trig

quick vs. quickly

↑
adverb

① $8x^2 + \square x + 11$

$(x+1)(8x+11)$	$\frac{8}{1,8}$	$\frac{11}{1,11}$
$(x+11)(8x+1)$	$2,4$	
$(2x+1)(4x+11)$		
$(2x+11)(4x+1)$		

② Factor $10x^2 + 37x - 12$

12,10	$(x-1)(10x-12)$	$\frac{10}{1,10}$ $2,5$	$\frac{12}{1,12}$ $2,6$ $3,4$
12,1	$(x-12)(10x-1)$		
20,6	$(x-2)(10x-6)$		
60,2	$(x-6)(10x-2)$		
30,4	$(x-3)(10x-4)$		
40,-3	$(x+4)(10x-3)$		

③ $6x^2 - 8x - 8$

$2(3x^2 - 4x - 4)$

↑
Factor this guy

$\frac{3}{1,3}$	$\frac{4}{1,4}$ $2,2$
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3,4	$(x-1)(3x-4)$
12,1	$(x-4)(3x-1)$
-6,2	$(x-2)(3x+2)$

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

9-16-19 3rd Trig

Quick vs. quickly

① $10x^2 + \square x + 9$

$\frac{10}{1, 10} \rightarrow \frac{9}{1, 9}$
 $\frac{10}{2, 5} \rightarrow \frac{9}{3, 3}$

19 $(x + 1)(10x + 9)$
91 $(x + 9)(10x + 1)$
53 $(x + 3)(10x + 3)$
23 $(2x + 1)(5x + 9)$
47 $(2x + 9)(5x + 1)$
21 $(2x + 3)(5x + 3)$

② Factor $12x^2 + 4x - 33$

$\frac{12}{1, 12} \rightarrow \frac{33}{1, 33}$
 $\frac{12}{2, 6} \rightarrow \frac{33}{3, 11}$
 $\frac{12}{3, 4}$

12, 33 $(x + 1)(12x - 33)$
33, 1 $(x - 33)(12x + 1)$
36, 11 $(x - 3)(12x + 11)$
132, 3 $(x + 11)(12x - 3)$
66, 6 $(2x + 1)(6x - 33)$
198, 2 $(2x - 33)(6x + 1)$
-18, 22 $(2x - 3)(6x + 11)$ ✓
 $(2x + 11)(6x - 3)$
 $(3x + 1)(4x - 33)$
 $(3x - 33)(4x + 1)$
 $(3x - 3)(4x + 11)$
 $(3x + 11)(4x - 3)$

③ Factor $6x^2 - 8x - 8$

$2(3x^2 - 4x - 4)$

Look at factoring only this part.

$\frac{3}{1, 3} \rightarrow \frac{4}{1, 4}$
 $\frac{3}{1, 3} \rightarrow \frac{4}{2, 2}$

4, 3 $(x + 1)(3x - 4)$
12, 1 $(x + 4)(3x - 1)$
-6, +2 $(x - 2)(3x + 2)$

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

9-16-19 4th Trig

Quick vs. Quickly
↓
adverb

① $10x^2 + \square x + 9$

$14x(x+1)(10x+9)$ $\frac{10}{1,10} \rightarrow \frac{9}{1,9}$
 $41x(x+9)(10x+1)$ $\frac{10}{2,5} \rightarrow \frac{9}{3,3}$
 $33x(x+3)(10x+3)$
 $23x(2x+1)(5x+9)$
 $47x(2x+9)(5x+1)$
 $21x(2x+3)(5x+3)$

② Factor $10x^2 + 37x - 12$

$12,10 (x+1)(10x-12)$ $\frac{10}{1,10} \rightarrow \frac{12}{1,12}$
 $120,1 (x-12)(10x+1)$ $\frac{10}{2,5} \rightarrow \frac{12}{2,6}$
 $20,6 (x+2)(10x-6)$ $\frac{10}{3,4}$
 $60,2 (x+6)(10x-2)$
 $30,4 (x+3)(10x-4)$
 $+40,-3 (x+4)(10x-3) \checkmark$

③ Factor $6x^2 - 8x - 8$

$2(3x^2 - 4x - 4)$

Factor only this part

$3,4 (x+1)(3x-4)$ $\frac{3}{1,3} \quad \frac{4}{1,4}$
 $12,1 (x+4)(3x-1)$ $\frac{4}{2,2}$
 $-6,2 (x-2)(3x+2)$

$\rightarrow 2(x-2)(3x+2)$

0

$$8n^2 + \square n + 15$$

