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6 Using x for the unknown number, write down an equation then solve it to find the number.

a The product of 2 and 3 more than a number is 7.

b The product of 3 and 4 less than a number is -4.

c When 2 less than 3 lots of a number is doubted the result is 5.

d When 5 more than 2 lots of a number is equivalent to 8 lots of the number.

1 2 more than 3 times the number is equivalent to 1 less than 5 times the number.

1 1 less than a doubted number is equivalent to 5 more than 3 lots of the number.

2 × 3 + 2 - 7

2 × (3x - 2)×2 = 2 \times (3x - 2) × 2 \times (3x
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- 2 more than 3 times the number is equivalent to 1 less than 5 times the number.
- 1 less than a doubled number is equivalent to 5 more than 3 lots of the number.
 - 7 Since Tara started work her original hourly wage has been tripled, then decreased by \$6. It is now to be doubled so that she gets \$18 an hour. Write an equation and solve it to find Tara's original hourly wage.

3x + 6 = 2x

3x+6-2x=0

32 - 22 = -6

x = -6

- At the start of lunch, Jimmy and Jake each brought out a new bag of x marbles to play with their friends. By the end of lunch, they were surprised to see they had an equal number of marbles, even though overall Jimmy had gained 5 marbles and Jake had ended up with double the result of 3 less than his original amount. How many marbles were originally in each bag?
- 9 Consider the equation 3(x-2) = 9.
 - a Solve the equation by first dividing both sides by 3.
 - b Solve the equation by first expanding the brackets.
 - C Which of the above two methods is preferable and why?

- 11 Consider the equation 3x + 1 = 5x 7.
 - a Solve the equation by first subtracting 3x from both sides.
 - b Solve the equation by first subtracting 5x from both sides.

24(x-13)=48

c Which of the above two methods is preferable and why? Describe the differences.