Constructing and solving 2-step algebraic equations.

Show all your (algebraic) working.

[1] Bobby has 4 packets of jellybeans. Each packet contained the same number of jellybeans. His friend gives him 22 more jellybeans. He now has 50 jellybeans. How many jellybeans were in each packet? Let "j" represent "jellybeans". Construct an algebraic equation for this problem and solve for the variable.	
[2] Dorothy had 6 identical pieces of wood. In preparing the wood for her project, she cut off eighty-three centimetres in total. This left Dorothy with a total of 457 centimetres of wood. How long was each piece of wood that Dorothy started with? Let "w" represent "wood". Construct an algebraic equation for this problem and solve for the variable.	
[3] Betsy had twelve packets of M&Ms. Each packet contained the same number of M&Ms. In a jar, Betsy also had 30 M&Ms. If Betsy had 330 M&Ms in total, how many M&Ms are in each packet? Let "m" represent "M&Ms". Construct an algebraic equation for this problem and solve for the variable.	
[4] Blade had some candy from Halloween night. He shared his candy equally between himself and four of his friends. After sharing the candy, Blade was given 12 extra pieces of candy. He now had 32 pieces of candy. How many pieces of candy were shared between Blade and his four friends? Let "c" represent "candy". Construct an algebraic equation for this problem and solve for the variable.	

Constructing and solving 1-step algebraic equations.

Show all your (algebraic) working.

[5] Stacey had three identical small bags of flour. She used 385 grams of flour to make a cake. She was left with 605 grams of flour. How much flour did each bag of flour contain? Let "f" represent "flour". Construct an algebraic equation for this problem and solve for the variable.	
[6] Muriel has six bags of peanuts, each one containing the same number of peanuts. Her friend gives her 35 more peanuts. She now has 815 peanuts. How many peanuts are in each bag? Let "p" represent "peanuts". Construct an algebraic equation for this problem and solve for the variable.	
[7] Lola had some fruit punch drink in a large bowl. She shared the fruit punch between herself and two other friends. One of the friends drank an extra 120 millilitres. This left 330 millilitres in the bowl. How much soda did Lola start with? Let "f" represent "fruit punch". Construct an algebraic equation for this problem and solve for the variable.	
[8] Dimsy had four identical packets of Tim Tams. She already had 12 Tim Tams in the biscuit tin. If Dimsy now has 84 Tim Tams in total, how many Tim Tams are in each packet? Let "t" represent "Tim Tams". Construct an algebraic equation for this problem and solve for the variable.	

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[9] Govinda has six exercise books. Each exercise book contained the same number of pages. Govinda ripped four pages in total out of one of the books because they were extremely untidy. In total, Govinda now had 284 pages in his exercise books. How many pages did each exercise book start with? Let "e" represent "exercise books". Construct an algebraic equation for this problem and solve for the variable.	
[10] Boris filled his watering can with 22 cups of water. He watered some plants, using 815 millilitres of water. When finished, Boris had 1,275 millilitres of water left in the watering can. How much water did each cup contain? Let "c" represent "cup". Construct an algebraic equation for this problem and solve for the variable.	
[11] Polly had twelve boxes of paper clips. Each box contained the same number of paper clips. Polly used forty-two paper clips in one week. This left her with a total of 342 paper clips. How many paper clips were in each box? Let "p" represent "paper clips". Construct an algebraic equation for this problem and solve for the variable.	
[12] For twelve weeks in a row, Belina received the exact same amount of House Points each week. During the 13th week, her teachers awarded her 15 more House Points. She now has 63 House Points. How many House Points did Belina receive in each of those first 12 weeks? Let "h" represent "House Points". Construct an algebraic equation for this problem and solve for the variable.	

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Solutions

[1] Bobby has 4 packets of jellybeans. Each packet contained the same number of jellybeans. His friend gives him 22 more jellybeans. He now has 50 jellybeans. How many jellybeans were in each packet? Let "*j*" represent "jellybeans". Construct an algebraic equation for this problem and solve for the variable.	$4j + 22 = 50$ $\quad -22 \quad\quad -22$ $\dfrac{4j}{4} = \dfrac{28}{4}$ $\boxed{j = 7}$ jellybeans
[2] Dorothy had 6 identical pieces of wood. In preparing the wood for her project, she cut off eighty-three centimetres in total. This left Dorothy with a total of 457 centimetres of wood. How long was each piece of wood that Dorothy started with? Let "*w*" represent "wood". Construct an algebraic equation for this problem and solve for the variable.	$6w - 83 = 457$ $\quad +83 \quad\quad +83$ $\dfrac{6w}{6} = \dfrac{540}{6}$ $\boxed{w = 90}$ cm
[3] Betsy had twelve packets of M&Ms. Each packet contained the same number of M&Ms. In a jar, Betsy also had 30 M&Ms. If Betsy had 330 M&Ms in total, how many M&Ms are in each packet? Let "*m*" represent "M&Ms". Construct an algebraic equation for this problem and solve for the variable.	$12m + 30 = 330$ $\quad -30 \quad\quad -30$ $\dfrac{12m}{12} = \dfrac{300}{12}$ $\boxed{m = 25}$ m&ms
[4] Blade had some candy from Halloween night. He shared his candy equally between himself and four of his friends. After sharing the candy, Blade was given 12 extra pieces of candy. He now had 32 pieces of candy. How many pieces of candy were shared between Blade and his four friends? Let "*c*" represent "candy". Construct an algebraic equation for this problem and solve for the variable.	$\dfrac{c}{5} + 12 = 32$ $\quad -12 \quad\quad -12$ $\dfrac{c}{5}(5) = 20(5)$ $\boxed{C = 100}$ pieces of candy

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Show all your (algebraic) working.

Solutions

[5] Stacey had three identical small bags of flour. She used 385 grams of flour to make a cake. She was left with 605 grams of flour. How much flour did each bag of flour contain? Let "*f*" represent "flour". Construct an algebraic equation for this problem and solve for the variable.	$3f - 385 = 605$ $+385 \quad +385$ $\dfrac{3f}{3} = \dfrac{990}{3}$ $\boxed{f = 330g}$
[6] Muriel has six bags of peanuts, each one containing the same number of peanuts. Her friend gives her 35 more peanuts. She now has 815 peanuts. How many peanuts are in each bag? Let "*p*" represent "peanuts". Construct an algebraic equation for this problem and solve for the variable.	$6p + 35 = 815$ $-35 \quad -35$ $\dfrac{6p}{6} = \dfrac{780}{6}$ $\boxed{p = 130}$ peanuts
[7] Lola had some fruit punch drink in a large bowl. She shared the fruit punch between herself and two other friends. One of the friends drank an extra 120 millilitres. This left 330 millilitres in the bowl. How much soda did Lola start with? Let "*f*" represent "fruit punch". Construct an algebraic equation for this problem and solve for the variable.	$\dfrac{f}{3} - 120 = 330$ $\phantom{\dfrac{f}{3}}+120 \quad +120$ $\dfrac{f}{3}(3) = 450(3)$ $\boxed{f = 1{,}350 \, ml}$
[8] Dimsy had four identical packets of Tim Tams. She already had 12 Tim Tams in the biscuit tin. If Dimsy now has 84 Tim Tams in total, how many Tim Tams are in each packet? Let "*t*" represent "Tim Tams". Construct an algebraic equation for this problem and solve for the variable.	$4t + 12 = 84$ $-12 \quad -12$ $\dfrac{4t}{4} = \dfrac{72}{4}$ $\boxed{t = 18}$ Tim Tams

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Solutions

[9] Govinda has six exercise books. Each exercise book contained the same number of pages. Govinda ripped four pages in total out of one of the books because they were extremely untidy. In total, Govinda now had 284 pages in his exercise books. How many pages did each exercise book start with? Let "e" represent "exercise books". Construct an algebraic equation for this problem and solve for the variable.	$6e - 4 = 284$ $ +4 \quad\quad +4$ $\dfrac{6e}{6} = \dfrac{288}{6}$ $\boxed{e = 48}$ pages
[10] Boris filled his watering can with 22 cups of water. He watered some plants, using 815 millilitres of water. When finished, Boris had 1,275 millilitres of water left in the watering can. How much water did each cup contain? Let "c" represent "cup". Construct an algebraic equation for this problem and solve for the variable.	$22c - 815 = 1275$ $ +815 \quad\quad +815$ $\dfrac{22c}{22} = \dfrac{2090}{22}$ $\boxed{C = 95}$ ml
[11] Polly had twelve boxes of paper clips. Each box contained the same number of paper clips. Polly used forty-two paper clips in one week. This left her with a total of 342 paper clips. How many paper clips were in each box? Let "p" represent "paper clips". Construct an algebraic equation for this problem and solve for the variable.	$12p - 42 = 342$ $ +42 \quad\quad +42$ $\dfrac{12p}{12} = \dfrac{384}{12}$ $\boxed{P = 32}$ paper clips
[12] For twelve weeks in a row, Belina received the exact same amount of House Points each week. During the 13th week, her teachers awarded her 15 more House Points. She now has 63 House Points. How many House Points did Belina receive in each of those first 12 weeks? Let "h" represent "House Points". Construct an algebraic equation for this problem and solve for the variable.	$12h + 15 = 63$ $ -15 \quad\quad -15$ $\dfrac{12h}{12} = \dfrac{48}{12}$ $\boxed{h = 4}$ House Pts.